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No. 58



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USSR AND EASTERN EUROPE SCIENTIFIC ABSTRACTS

BIOMEDICAL AND BEHAVIORAL SCIENCES

No. 58

This serial publication contains abstracts of articles from USSR and Eastern Europe scientific and technical journals on the specific subjects reflected in the table of contents.

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I. BIOMEDICAL SCIENCES
Agrotechnology

USSR

UDC 633.11:631.8+631.582

MINEYEV, V. G., corresponding member, Academy of Agricultural Sciences, and candidates of agricultural sciences, TISHCHENKO, A. T., and SEMIKHOVA, O. D., All-Union Scientific Research Institute of Fertilizers and Agriculture imeni D. N. Pryanishnikov

PROTEIN CONTENT AND PROCESSING QUALITIES OF WHEAT GRAIN WHEN FERTILIZERS ARE SYSTEMATICALLY APPLIED IN THE CROP ROTATION PATTERN

Moscow DOKLADY VASKHNIL in Russian No 7, Jul 76 pp 4-6

[Abstract] The more intensive use of chemicals in agriculture makes it necessary to thoroughly study their influence on the soil, on productivity and quality of crops. Many specialists feel that fertilizers can improve grain qualities. However, there is not much data on this and various specialists have used different methods of research. VIUA [All Union Scientific Research Institute for Fertilizers and Agronomic Soil Science imeni D. N. Pryanishnikov] and several scientific institutions are studying these effects on winter wheat using various doses of fertilizer. There were five experimental stations (ES).

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MINEYEV, V. G., TISHCHENKO, A. T., and SEMIKHOVA, O. D., DOKLADY VASKHNIL No 7, Jul 76 pp 4-6

Station	Soil	Average fertilizer dose	Manure (Tons)	Variety	Predecessor
(1) Sudogskaya	Soddy-podzolic sandy	1 dose N ₅₀ P ₂₅ K ₆₀ 2 dose N ₁₀₀ P ₅₀ K ₁₂₀	10.0	Winter Mironovskaya-808	Lupin
(2) Vladimirskaya	Grey forest	1 dose N _{57.1} P _{34.3} K _{68.6} 2 dose N _{114.3} P _{68.6} K ₁₃₇	11.5	" "	Perennial grasses
(3) Cherkasskaya	Chernozem regraded medium loamy	1 dose N ₃₆ P ₃₆ K ₃₆ 2 dose N ₆₁ P _{48.4} K ₆₆	5.0	" "	Silage corn
(4) Krasnoyarskiy NIISKH	Chernozem leached heavy loam	1 dose N _{33.3} P _{16.6} K ₄₀ 2 dose N ₅₀ P _{36.6} K ₄₀	6.6	Spring Skala	Spring wheat
(5) Far Eastern NIISKH 2/4	Meadow brown heavy loam slightly tilled	1 dose N _{20.8} P ₂₅ K _{17.5} 2 dose N ₃₅ P _{37.5} K ₂₅	6.6	Spring Monakinka	Soya

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No 7, Jul 76 pp 4-6

The grain was compared for weight per 1000 grains, vitreosity, raw protein, raw gluten, and tested by pharyonograph and alveograph. Detailed results are given in a table. In all experiments the protein content of winter and spring wheat increased markedly. In (1) protein content increased 1.37-3.25%, in (2) the increase was 1.20-2.68% and gluten content 2.4-6.2%, in (3) the figures were 0.74-1.60% and 5.4-7.5%, in (4) protein content increases 3.31 and 8.8% for gluten, in (5) there was an increase in protein content only with higher doses of mineral fertilizer. In most cases the increased saturation of fertilizer improved basic indicators of processing quality such as flour strength and grain output volume. In (1) the figure was an increase of 67-184 Joules for flour strength and 30-60 ml for grain output volume, for (2) the figures were 27-122 Joules and 20 ml, for (4) they were 91-128 Joules and 50-80 ml, for (5) they were 26-50 Joules and 20-30 uml. For (3) flour strength declined although all other quality indicators increased. Mineral fertilizers had no noticeable effect on the tendency of grain to crumble. Pharyonograph tests showed that mineral fertilizers had beneficial effects on all soils. Influence of increased saturation of the crop
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MINEYEV, V. G., TISHCHENKO, A. T., and SEMIKHOVA, O. D., DOKLADY VASKHNIK
No 7, Jul 76 pp 4-6

rotation with fertilizers was not noted. Applications of manure did not improve grain quality as much as mineral fertilizers. Tables 2; References 5: 4 Russian, 1 Hungarian.

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USSR

UDC 633.11"324":631.523

KORENEVSKIY, A. I., candidate of biological sciences, Nikolayevsk Oblast State Agricultural Experimental Station

EXPERIMENTAL PRODUCTION OF NIKOLEVSKAYA BRANCHY WINTER WHEAT AND RESULTS OF ITS STUDY

Moscow DOKLADY VASKHNIL in Russian No 7, Jul 76 pp 7-9

[Abstract] Using the varieties Bezostaya-1, Belotserkovskaya-198, Michurinka, and the cultivar ferrugineum bred from Bezostaya-1 as initial material to obtain the Nikolevskaya variety, an experiment was carried out to produce branchy varieties of winter wheat, taking into consideration the mutagenic role of such factors as temperature and light and the critical moment of branch formation of *Triticum turgidum* and the influence of selection. Prior to planting the seeds were vernalized for 60 days in a cooler at -2 degrees C. They were planted on 15 August after soil received 100 cubic meters per hectare of water and 2 centners of superphosphate and ammonium nitrate per hectare. Following the appearance of the second leaves and prior to 23 September the first generation plants were shifted to a 12 hour day, during the second half they were covered by opaque cover. With the onset of the cold season the strongest plants were transferred to an illuminated facility

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where they received 17 hours of light prior to heading and 24 hours after complete ripening. This resulted in the formation of branches for all samples, including the ferrugineum cultivar. Data are given on the changes in ear structure for the generations running from 1961 to 1967. The number of branches increased from 6.8 in 1961 to 17.4 in 1967, the number of spikelets increased from 39.2 to 88.8, the number of grains per ear increased from 22.4 to 134.8, the weight of 1,000 grains decreased, however, from 36.2 g in 1961 to 30.7 in 1967. The wheat stalks became stronger, the ears became more dense and they ripened 2-3 days earlier. In 1967-1968 the yield of branchy ferrugineum averaged 42.5 centners per hectare while for Bezostaya the average was 38.1. In seeding 0.6 centers of ferrugineum were applied per hectare; for the control the figure was 1.8 centners per hectare. Ferrugineum is winter resistant and can be planted in the central regions. It is a semi-dwarf (60-70 cm), and ripens 3-4 days earlier than Bezostaya-1. In 1971 it was included in the All Union Institute of Plant Raising world collection under the number k-46959. During 1971-1974 experiments were conducted on the norms for seeding and methods of sowing. Seeding should not exceed 33-37 kg per hectare at 45 cm interrow width.

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KORENEVSKIY, A. I., DOKLADY VASKHNIL No 7, Jul 76 pp 7-9

The maximum yield from Nikolayevskaya branchy was 86.7 centners per hectare in 1973. Yield structure per square meter was as follows: number of plants-75, productive spiklets - 298, average weight per ear - 2.9 g, average number of grains per ear - 82, weight per 1,000 grains - 35 grams. Figures 2; Tables 2; References 6: 5 Russian, 1 Ukrainian.

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USSR

UDC 633.16:631.52

OLEYNIK, A. A., candidate of agricultural sciences, All-Union Scientific Research Institute of Grain Raising

CHARACTERISTICS OF THE DEVELOPMENT OF THE ROOT SYSTEM OF SPRING BARLEY AND THEIR UTILIZATION IN SELECTION FOR NORTH KAZAKHSTAN

Moscow DOKLADY VASKHNIL in Russian No 7, Jul 76 pp 12-13

[Abstract] Spring barley is an important source of concentrated fodder in northern Kazakhstan. Yields are damaged by severe droughts. During 1968-1970 the All Union Institute of Grain Raising carried out studies on the formation of root systems of barley samples of various ecological origin and determined the best ones for breeding stock and also demonstrated the efficiency of selecting by the number of embryonic roots. There were 200 samples used. These included plants from Turkey, Holland, Romania, Japan, the US, Australia and other nations. During the stage of waxey ripeness, the plants were dug up, the roots washed and root structure analyzed in laboratories. There were substantial differences in the number of embryonic roots of ecological groups of barley. Anatolian had 7.03 and East Asian 6.71, while North American had 5.83 and Dagestan had 5.99. During dry years when crown roots are not sufficiently developed the size of yield depends on the size of the embryonic roots. The coefficient of correlation

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OLEYNIK, A. A., DOKLADY VASKHNIL No 7, Jul 76 pp 12-13

between the number of embryonic roots and plant productivity ranged from 0.54 ± 0.08 to 0.70 ± 0.08 . For crown roots and plant yield it was $0.11 \pm 0.09/0.15 \pm 0.08$, no substantial relationship was determined. On the other hand, in wet years the developed crown roots influenced productivity ($r = 0.69 \pm 0.09/0.79 \pm 0.08$) and the correlation between embryonic roots and plant productivity was insignificant ($r = 0.18 \pm 0.08/0.23 \pm 0.09$). Crown roots have a wider range of variability. Some varieties from Asia Minor, the Near East and East Asia have developed crown roots. The following varieties, having well developed embryonic and crown roots, are of special interest as selection material: K-11714, 14714 (USSR); 9230, 11540, 11808 ((Turkey, 18321 (DDR). Repeated plantings of the Omsk 13709Xk6857 demonstrated a survival rate of 10.8% higher than plants with four roots, the number of grains per plant 52.3% higher and grain weight was also considerably higher. Repeated selection of 10 root plants improved yield structure, depending on the hybrid population; plant survival ranged from 2.8 to 14.3%, the number of grains per plant ranged from 5.7 to 55.6% higher and increase in grain weight ranged from 22.6 to 39.1%. The research resulted in new lines with increased embryonic roots, exceeding the presently regionalized variety Tselinnyy-5 by 17.8 to 33.6% with respect to this indicator. Selection for increased number of embryonic roots will thus improve drought resistance and productivity.

Tables 1; References: 6 Russian.

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USSR

UDC 631.611/418:626.841

OBUKHOV, A. D., candidate of technical sciences, Ukrainian Institute of Water Economy Engineers

THE EFFICIENCY OF THE SOIL IMPROVEMENT FIELD IN A SHORT RICE CROP ROTATION ON SALINE SOILS

Moscow DOKLADY VASKHNIL in Russian No 7, Jul 76 pp 43-44

[Abstract] Since it is a specialized crop, rice should produce high yields with rice occupying the crop rotation to as great an extent as possible. In the southern Ukraine six, seven, and eight field crop rotation patterns are recommended, with rice occupying 50 to 57%. Land leveling is thus possible only every six-eight years. This is too long for a good levelling job. If the non rice part of the rotation is planted for more than two years it tends to draw salt into the upper layers of the soil. Thus, only a short crop rotation pattern will meet all these needs. For seven years the Rossiya Kolkhoz in Golopristsanskiy Rayon in Kherson Oblast has carried out research on a three year rotation (rice-rice-soil improvement field) in which rice accounts for 67% of the total crop area. The crops are on dark chesnut soil, with 10-30% average and deeply leached soils intermixed. Ground water in the preplanting period is found at a depth of 1 to 2 meters and its

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mineralization ranges from 2 to 12 grams per liter, the content of water soluble salt ranges from 0.05 to 2.2% of soil weight. The salinization is sulfide and chloride. All soil improvement fields were divided into two sections: in the first half a vetch-oat mixture was raised for green fodder during the spring-summer period and the paddies were levelled in the fall-winter, after the harvest of the vetch-oat mixture. On the second half of the fields the paddies were levelled during the spring-summer and during the fall-winter the vetch-oat mixture was raised for green fodder. On three experimental paddies the mixture was plowed into the soil as green fertilizer. The average rice yield during the first two years of the rice crop rotation (following virgin land) was 42.2 centners per hectare, while in the following two years, after soil improvements it increased to 52.8 centners per hectare, and by the beginning of the third rotation it was 60 centners per hectare. The soil improvement measures have a good effect on the soil moisture and physical properties. Humus content increased from 1.5 to 1.6% in the first 60 cm and from 2.09 to 2.21 in the first 20 cm, the content of soluble phosphorus in the plow horizon increased from 1.48 to 3.72 mg per 1,000 grams of soil. The pH was reduced from 8.3 to 7.1 mg. equivalent units/100 grams of soil, and hydrolytic acidity declined. A table gives data on

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nine indicators of rice yield following virgin land, legumes (both harvested for green fodder and plowed under for fertilizer) and rice following rice. The rice-rice-soil improvement field pattern systematically desalinates the active layer of the soil, increases fertility and rice yields. Figures 1; Tables 2; References 5 (Russian).

Biophysics

USSR

UDC 621.3.013:576.851.5:582.951.62

OSTAPENKOV, A. M., MATISON, V. A., KAPTEREVA, YU. V., BELOVOLOV, A. V., and LAVROVA, V. L., Moscow Institute of the Food Industry

EFFECT OF LOW-INTENSITY MICROWAVE ELECTROMAGNETIC FIELDS ON BACILLUS MESAENTERICUS AND PSEUDOMONAS FLUORESCENS

Moscow BIOLOGICHESKIYE NAUKI in Russian No 6, 1976 signed to press 11 Jul 75 pp 47-50

[Abstract] One-day-old cultures of *Bacillus mesentericus* and *Pseudomonas fluorescens* were exposed for 1 hour to microwave fields ranging from 10,300 to 39,600 mHz. The results were reflected by resonance curves. At some frequencies (10,450 mHz) the survival rate of *Bac. mesentericus* diminished sharply while at others (10,300 mHz) the culture continued to grow. This pattern was observed at both centimeter and millimeter wavelengths. The nature of the curves reflecting the growth of the 2 microorganisms was different, but at the millimeter wavelength and frequency of 39,555 mHz, irradiation was lethal to both. Figures 2; References 9: 8 Russian, 1 Western.

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USSR

UMIDOVA, Z. I., GLEZER, G. A., YANBAYEVA, Kh. I., KOROLEV, G. P.

HEART DEFECTS AND CLIMATE

Tashkent OCHERKI KARDIOL. ZHARKOGO KLIMATA in Russian, Meditsina Press, 1975, pp. 351-362.

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.37 by A. Aleksandrov]

[Text] 184 patients with heart defects were studied in Tashkent; 90 of the patients were followed dynamically through several seasons. The clinical archives for 1957-1964 were also studied. In order to evaluate the functional state of the cardiovascular system, we utilized electrocardiography, phonocardiography, roentgenoscopy and roentgenography of the heart, and hemodynamic indicators. Meteorological data were produced from the Hydrometeorological Service of the Uzbek SSR. The microclimate under the clinical conditions was studied by determination of the air temperature, relative humidity and barometric pressure in the hospital room. The age of the patients was 15 to 60 years, 10.65% 21-40 years of age, while 85.4% of the patients had rheumatism in their case histories. A clear meteolability was found in 108 subjects. On cold days, particularly following a rapid change in weather within the previous

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USSR

Umidova, Z. I., Glezer, G. A., Yanbayeva, Kh. I., Korolev, G. P., OCHERKI KARDIOL. ZHARKOGO KLIMATA in Russian, Meditsina Press, 1975, pp. 351-362.

24 hours, the patients felt clearly worse. Unstable, rainy weather was observed particularly frequently in spring; in the summer, the patients felt much better than in the winter. In the summer, cases of aggravation of rheumatism were much less frequent. However, in July, the warmest month, when the air temperature during the day rose to +41 C and there was almost no wind, the condition of the patients, particularly those with significant decompensation, grew worse. Patients arriving from the north and the central belt of Russia were rapidly acclimatized, their condition and feeling improved, but a return to these areas frequently caused aggravation of the rheumatism. During the post operative period in patients with heart defects, seasonal fluctuations in condition were not noted. Seasonal fluctuations in the electrocardiograms were insignificant. The x-ray picture of the heart was stable throughout the year. The venous pressure was significantly higher in winter, dropped somewhat in spring and still more in summer. In the fall and winter, the rate of blood circulation decreased. During the period of highest temperatures, the cardiovascular system reacted, manifested as a sharp drop in the blood volume per minute, an increase in venous pressure, some increase in exchange of circulating blood with a decrease in blood flow velocity. This is the most unfavorable type of reaction of the cardiovascular system, indicating an interruption in compensatory mechanisms in patients with severe cardiovascular insufficiency.

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USSR

RUSANOV, V. I.

PRIMARY FEATURES OF THE BIOCLIMATE OF NOVOSIBIRSK OBLAST

Novosibirsk PRIROD. RESURSY SIBIRI in Russian, Nauka Press, 1976, pp. 135-143.

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.41 from the resume]

[Text] Based on the landscape, bioclimatic regionalization of Novosibirsk oblast is performed by seasons of the year (three regions are distinguished in the winter, five in summer, three in fall and four in spring). The bioclimatic evaluation of the regions distinguished is given using typization of the climate, reflecting the influence of weather on the thermal state of humans, on the appearance of pathologic reactions in weather-sensitive patients and characterizing the meteorological conditions of climate therapy and labor in the open air, the duration of periods with natural ultraviolet deficiency and with biologically active solar radiation. Based on analysis of the primary features of the bioclimate of Novosibirsk oblast, certain recommendations are given to reduce the negative influence of the climate on man. 10 references.

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USSR

TIMOFEYEVA, A. A., POGREBENKO, A. G.

LANDSCAPE TYPOLOGY OF NATURAL INFECTIOUS FOCI OF THE NORTHWESTERN PACIFIC OCEAN COAST

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No. 2, 1973, pp. 49-60

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.52 by T. Vorontsova]

[Text] Information on the animal world of the northwestern Pacific coast is systematized. Here there are 85 species of mammals, relating to 7 orders and 64 genera (excluding chiroptera and pinnipedia). The distinguishing features of the territory is the rich species composition of the pinnipedia and cetacea. Of the insects of medical significance, there are 8 species of ixodidae, but the richest in the species respect are the daphnia and gamasidae. Six landscape types of natural infectious foci are distinguished: seacoasts and Pacific Ocean slopes, Eurasian portion, mountain tundra and forested tundra, taiga, forested meadows, marine bodies of water, populated points and cultivated land. The characteristics of each of these foci are presented. 26 references.

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USSR

BELYAYEV, V. G.

MORBIDITY OF HEMORRHAGIC FEVER WITH KIDNEY SYNDROME IN PRIMORSKIY KRAY AS A FUNCTION OF TERRAIN AND STRUCTURE OF POPULATED POINTS

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII I INVAZII DAL'N. VOST. in Russian, No 3, 1974, pp. 73-77

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.71 by Ya. Tsilinskiy]

[Text] In Primor'ye, the expansion of cultivated land is leading to improvement of conditions of existence of field mice, the dominant rodents in agricultural fields and the main species determining the epidemiologic trend in Far Eastern hemorrhagic fever foci with kidney syndrome (HFKS). Due to this, the morbidity of HFKS is related to the degree of development of agriculture. In regions of well developed agriculture, within which there are 13-27.7 km² of planted area for every thousand inhabitants, the HFKS morbidity in 1959-1966 was 97, in regions of little agricultural activity (0.3-9.6 km² per thousand residents) -- 34 per 100,000 inhabitants. Thus, the indicators of morbidity in regions of developed agriculture were almost three times higher than those in regions in which there was little cultivated land for all of the years of observation. When the number of field mice is depressed, this difference

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Belyayev, V. G., PRIROD.-OCHAGOVYYE INFEKTSII I INVAZII DAL'N. VOST. in Russian, No 3, 1974, pp. 73-77

increases by a factor of 7.5 times. The HFKS morbidity is inversely dependent on the size of populated points. The morbidity per 100,000 inhabitants in all foci except for cities was 187, in cities with populations of 40-120,000 -- 18. Foci with populations of 1000-1500 represented 72.5% of all foci, yielding 56.8% of the entire morbidity. In the years of depressed field mouse population, the morbidity was concentrated in the larger populated points. This is explained by the fact that the relationship of the field mouse with human habitation in these areas is firmer and more constant in nature than in small villages. It is probable that near large populated points, the number of field mice is regulated to a greater extent by anthropogenous factors than near small populated points, where the decisive significance is that of natural factors, which change sharply from year to year.

USSR/BULGARIA

PETROVA, N.

MATERIALS FOR THE GEOGRAPHY OF NATURAL-FOCUS DISEASES OF BULGARIA

IZV. VSES. GEOGR. O-VA in Russian, Vol 108, No 1, 1976, pp. 37-41

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.55 by L. Saravayskaya]

[Text] The territory of Bulgaria is divided into four physical-geographic areas: 1) the Danube hilly plains, 2) Stara-Planina, 3) the upper Frakian lowlands, 4) the Frakian-Macedonian massif. Based on physical-geographical regionalization of the country and considering the classification of diseases by nature of influence of geographic environment on their propagation, the following groups of diseases are distinguished, common in the territory of Bulgaria: 1) anthroponous-axenous: infectious hepatitis, dysentery, typhus abdominalis, tetanus, poliomyelitis; 2) anthroponous-metaxenous: exanthematous fever, pappataci fever, malaria; 3) zoonous-axenous: brucellosis, leptospirosis, anthrax; 4) zoonous-metaxenous: tularemia, Crimean hemorrhagic fever, hemorrhagic nephroso-nephritis, Q fever, Marseille fever. High morbidity of infectious hepatitis and dysentery is observed in the Frakian-Macedonian massif, of dysentery on the Black Sea coast. The maximum morbidity of typhus abdominalis is recorded in territories with altitudes of 0-200 m, the minimal --

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USSR/BULGARIA

Petrova, N., IZV. VSES. GEOGR. O-VA in Russian, Vol 108, No 1, 1976, pp. 37-41

above 700 m over sea level. In the south, in the area of the upper Frakian lowlands, tetanus is common. In 1960-1969 in Plovdivskiy and Starozagorskiy okrugs, 98 and 85 cases of tetanus were recorded respectively. The maximum morbidity of poliomyelitis is observed in the western and Tundzhansk-Strandzhansk suboblasts of the third oblast, while low morbidity is observed in the central and low-mountain regions of the second and forth oblasts. In 1958-1962, some individual cases of exanthematous fever were observed. The greatest number of cases was recorded in the western Rodopskaya suboblast (4th oblast). Seven cases of pappataci fever were noted in the Iskyr River basin. Up to 1962, the morbidity of malaria in the first oblast was 2.04 per 10,000 persons; in the second -- 1.15; in the third -- 4.19 and in the fourth -- 7.70, while in recent years malaria has been practically eliminated. In 1960-1969, 85 cases of brucellosis were observed, the maximum morbidity in the third oblast; here also we find high morbidity of leptospirosis. Sporadic cases of anthrax are reported among persons and agricultural animals. The maximum number of cases of the disease among persons (270) was recorded in the northwestern portion of the Danube plain, in Tolbukhinskiy okrug. Tularemia extends over the Silistrinskiy swamp-lacustrine okrug (oblast 1). Crimean hemorrhagic fever has been recorded over the past 30 years in Rodopy (Pazardzhikskiy, Kyrdzhaliyskiy and Khaskovskiy okrugs). In the fourth oblast, in Rily, Piriny and Rodopy,

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Petrova, N., IZV. VSES. GEOGR. O-VA in Russian, Vol 108, No 1, 1976, pp. 37-41

hemorrhagic nephroso-nephritis has been recorded. In the country there are some individual cases of Q fever (maximum number of cases 51 in the first oblast, in Rusenskiy okrug, the minimum number -- 5 cases in the second oblast, in Lovechskiy okrug). Marseille fever occurs in the Maritsa River valley (in 1953, the maximum number of cases was recorded -- 20). A diagramatic map of the physical and geographic regionalization of Bulgaria is presented. 12 references.

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USSR

VOROB'YEVA, N. N., KUKHARCHUK, L. P. and STRIZHAK, V. M.

SEPARATION OF THE OMSK HEMORRHAGIC FEVER VIRUS FROM AEDES MOSQUITOS IN THE BARABINSKAYA LOWLANDS (ZDVINSKIY RAYON)

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No 2, 1973, pp. 70-72

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.65 by Ya. Tsilinskiy]

[Text] Virological examination of 124 Aedes beklemishevi mosquitos revealed 2 strains, of Aedes subdiversus mosquitos -- 3 strains of neurotropic virus, identified serologically as the virus of Omsk hemorrhagic fever. The mosquitos were trapped in the region of Lake Chana, Zdvinskiy rayon in the Barabinskaya lowlands. The terrain of this area is characterized by many bodies of water which do not dry out until mid-June, the breeding sites of the mosquitos. These species of mosquitos, the sources of the virus, are early spring types. Earlier in the Barabinskaya lowlands the Omsk hemorrhagic fever virus was found only in summer types of mosquitos. These results indicate the extensive participation of mosquitos in the circulation of Omsk hemorrhagic fever virus in the forested steppe regions of western Siberia. 9 references.

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USSR

GAL'PERIN, G. Sh. and YATSYNA, E. N.

FAR-EASTERN SCARLATINA-LIKE FEVER DISEASES

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No. 2, 1973, pp. 100-101

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAPHIYA No 7 1976 Abstract No 7.36.90 by Ya. Tsilinskiy]

[Text] A case of the scarlatina-like fever common in the Far East was recorded for the first time in Kamchatka in 1965. Subsequently up to 1968, 206 cases of the disease were recorded in all. Most of the patients came from the north-eastern edge of Petropavlovsk-Kamchatskiy. Cases of Far Eastern scarlatina-like fever have not been reported by the territorial medical institutions of the oblast. The reason for this apparently is the great variety of clinical forms of the disease, the presence of atypical and latent cases, as well as insufficient familiarity of physicians with the clinical aspects of this disease. Cultures of the pathogen isolated in 1968 from two patients were identical in their properties to cultures isolated in other regions of the Far East.

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USSR

ROSLAYA, I. G., ROSLYAKOV, G. Ye., ZAKSTEL'SKAYA, L. Ya., ISACHENKO, V. A.,
TROP, I. Ye. and L'VOV, D. K.

ISOLATION OF TYPE A INFLUENZA VIRUS FROM WILD BIRDS

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No 2, 1973,
pp. 81-86

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No
7.36.73 by Ya. Ts.]

[Text] In 1972 in Khabarovsk kray during an epizooty of unknown nature, 55
hemagglutinating agents were extracted from 370 migrating water fowl. Some of
the strains separated showed serologic affinity with human type A2 influenza
virus. Their hemagglutinating activity was suppressed by the antiserum for
this type of virus. The bird serum samples were found to contain antihemaglu-
tinins for various human and animal influenza viruses. Positive results were
most frequently found for virus A/Hong Kong/68, A/England/42/72 and strains of
influenza virus found in turkeys.

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USSR

SHIRYAYEV, D. T. [Editor]

MELIOIDOSIS

Moscow MELIOIDOZ in Russian, Meditsina Press, 1976, 111 pages

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No
7.36.87K from the resume]

[Text] This monograph presents information on the geographic distribution of
melioidosis, the biological properties of its pathogen, clinical aspects of the
disease in man and in animals. The pathogenesis, pathologic anatomy, epi-
demiology, prophylaxis, laboratory diagnosis and modern methods of treatment
are presented. The monograph is intended for physicians, microbiologists,
epidemiologists and infectious disease experts.

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USSR

KHRAMOVA, V. S., POPOV, V. A. and POGORELOV, M. Ye.

RESULTS OF STUDIES TO DETERMINE THE NATURE OF TULAREMIA FOCI

Blagoveshchensk PRIRODNO-OCHAGOV. ZABOLEV. V AMUR. OBL. in Russian, 1975, pp. 83-87

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.85 by T. Vorontsova]

[Text] Results are presented from 15 years' search for tularemia foci in Amur oblast, the examination encompassing 3 cities and 17 rayons of the oblast. In all, 10,524 rodents were studied, predominantly field mice and domestic mice; 33,150 *Dermacentor silvarum*, *Ixodes persulcatus* and *Naemaphysalis concinna* ticks, 959 gamasid mites and 5310 fleas were collected. The results of the study were negative. In addition to this, serologic studies of 3681 persons in 9 rayons of the oblast were undertaken, plus 1000 skin tests with tularine. The reactions were positive in the diagnostic titer in 4 persons, but detailed examination of these persons established that they had all come to the Amur area from parts of the country where tularemia foci are present. Thus, extensive search for tularemia foci has not yielded positive results.

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USSR

TOCHILOVA, T. P. and YACHMENEV, N. I.

EPIDEMIOLOGICAL TYPES OF TULAREMIA IN INDIVIDUAL LANDSCAPE-GEOGRAPHIC ZONES OF KALININGRAD OBLAST

Kaliningrad PROBL. INFEKTSION. PATOL. in Russian, 1976, pp. 40-42

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.84 by L. Zakharova]

[Text] There are two types of natural tularemia foci in the territory of Kaliningrad oblast: meadow-field (most active) and flooded-swamp. In the meadow-field zone, the largest outbursts of tularemia are noted in the winter. Infection occurs from small rodents and rabbits. As to the nature of the outbursts, they can be differentiated among agricultural, domestic and hunting-food outbursts. Infection during hunting from rabbits or when their meat is eaten is the most common means of infection in Kaliningrad oblast (54.4% of all cases of the disease). In the flooded-swamp zone, an increase in morbidity is noted in the summer in connection with the increase in the population of blood-sucking winged insects. The disease is most commonly found among persons who must spend long periods of time in the open air. In 93.7% of cases, the transmissive path of tularemia infection is noted.

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USSR

USTYUZHIN, Yu. A. and SUNTSOV, V. V.

POPULATION AND EXTERMINATION OF THE MONGOLIAN BOBAK IN THE TUVA PLAGUE FOCUS

Irkutsk MEZHDUNAR. I NATS. ASPEKTY EPIDNADZORA PRI CHUME. CH. 2 in Russian, 1975, pp. 32-35

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.83 by V. Kraminskiy]

[Text] The ban on commercial hunting has facilitated intensive multiplication and spreading of the bobak in the territory of this focus. Hunting of this animal is done in late March, early April through the end of May and from mid-July to early October. At the present time, continuous bobak settlements occupy the southeastern slope of the Mongun-Tayginskiy Mountain area, extending into the territory of Mongolia to the Kharkhirskiy Mountain mass. Strips of bobak population in the Sagla River basin extend along the southern slope of western Tannu-Ola. The population density is not over 0.3 animals per ha. Along the left bank of the Kazy-Khalyna River, the population density increases to 0.5 animals per ha. In the territory of Mongolia bordering with the Sagla River valley, the population density is 2-3 per ha. Widespread foci of the population have been noted in all areas of Mongun-Tayginskiy and Saglinskiy

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USSR

Ustyuzhin, Yu. A. and Suntsov, V. V., MEZHDUNAR. I NATS. ASPEKTY EPIDNADZORA PRI CHUME. CH. 2 in Russian, 1975, pp. 32-35

mesofoci. From 1971 through 1975, extermination work was undertaken. At the present time, the high population (up to 8 animals per ha) had been retained in Suglug-Ooy and Kara-Bel'dyr. A map charting the population centers is presented. 1 reference.

USSR

POGORELOV, M. Ye., ZAKHRYALOVA, K. G. and KAMARDINA, M. P.

LEPTOSPIROSIS

Blagoveshchensk PRIRODNO-OCHAGOV. ZABOLEV. V. AMUR. OBL. in Russian, 1976, pp. 27-41

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.80 by Ye. P.]

[Text] Materials on the etiology, epidemiology and clinical aspects of leptospirosis in the territory of Amur oblast in 1951-1974 are presented. Analysis of epizootologic investigations for leptospirosis allows the morbidity of persons to be related to the activity of anthropogenic foci.

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USSR

YACHMENEV, N. I., SIL'YANOVA, V. I., PROSKURYAKOV, L. V., TOCHILOVA, T. P. and USHAKOVA, M. N.

A WATER OUTBURST OF LEPTOSPIROSIS DISEASE IN OZERSKIY RAYON

Kaliningrad PROBL. INFETSION. PATOL. in Russian, 1976, pp. 37-39

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.79 by L. Z.]

[Text] In July of 1973 in the village of Dubrava in the lacustrine region of Kaliningrad oblast, a water outburst of leptospirosis was recorded (21 persons fell ill). 97 patients examined were found to have antibodies to grippotyphosa leptospira in titers of 1:50-1:1600. The patients were infected by bathing in the Tikhaya River and using water from the river for domestic needs. Bacteriological examination of wild rodents trapped in the region of the river revealed three cultures of grippotyphosa and one culture of pomona.

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USSR

POGORELOV, M. Ye., PETROVA, N. I. and KROSS, Ye. V.

BRUCELLOSIS

Blagoveshchensk PRIRODNO-OCHAGOV. ZABOLEV. V AMUR. OBL. in Russian, 1975, pp. 60-72

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.77 by T. Vorontsova]

[Text] The data from 10 years' study of brucellosis in the Amur region are presented, due to the intensive development of animal husbandry and importation of cattle from other areas of the country, which have facilitated the propagation of the disease. The main source of infection for humans is cattle, and outbreaks of brucellosis among sheep have been rare. Examination of northern deer (930 animals) for brucellosis showed negative results. Epidemiological analysis of 376 cases of brucellosis in persons indicates infection by contact in 60.8% of the patients, alimentary infection through milk in 11.7%. The infection was facilitated by visiting brucellosis foci in 70.4% of the patients. Two-thirds of the patients were occupationally involved with the animals; among the patients, there were two times as many women as men. Testing of 11,184 healthy residents of Amur oblast, primarily livestock farmers, produced 988 (8.8%) positive reactions.

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USSR

PAVLOVSKAYA, N. I., MOROZOVA, A. V., TOCHILOVA, T. P. and YACHMENEV, N. I.

MATERIALS FROM AN IMMUNOLOGIC RECONNAISSANCE FOR THE PRESENCE OF Q RICKETTSIOSIS IN KALININGRAD OBLAST

Kaliningrad PROBL. INFEKTSION. PATOL. in Russian, 1976, pp. 44-45

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.76 by L. Z.]

[Text] In 1964-1972, 3328 human blood serum samples were studied by the complement fixation test. Positive results were produced in 2.4% of cases. The highest percentage of infection was found in Krasnoznamenskiy (11.7%), Slavskiy (5.1), Pravdinskiy (4.8) rayons and Kaliningrad (3.0%). In 11 rayons and 2 cities of the oblast, 2299 cattle blood serum samples were studied using the complement fixation test. Positive reactions were found in 61 cases (2.6%). Antibodies against Q rickettsiosis were recorded most frequently in cattle of Gur'yevskiy (6.6%), Nemanskiy (4.8) and Slavskiy (1.2%) rayons.

USSR

SOSNITSKIY, V. I., NOVYSH, Ye. M., D'YAKONOV, Yu. N. and BRAL'NINA, G. G.

MATERIALS FROM IMMUNOLOGIC RECONNAISSANCE OF Q FEVER IN ARKHANGEL'SK OBLAST

Kaliningrad PROBL. INFEKTSION. PATOL. in Russian, 1976, pp. 47-48

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.75 by L. Z.]

[Text] In 1965-1971, blood serum of practically healthy persons in 54 populated points of 20 rayons of Arkhangel'sk oblast was studied by the complement fixation test. Specific complements fixing antibodies were found in 14 populated points. Antibodies to Q rickettsiosis were found in 54 serum samples of 963 studied (5.6%). The fact of infection was established in residents of various zones (taiga, forest-tundra and tundra). Examination of cattle in 8 regions of the oblast (234 animals) revealed antibodies in 8 cases (3.4%).

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USSR

TOCHILOVA, T. P. and YACHMENEV, N. I.

THE EPIDEMIOLOGY OF RABIES IN KALININGRAD OBLAST

Kaliningrad PROBL. INFEKTSIOL. PATOL. in Russian, 1976, pp. 42-43

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.72 by L. Z.]

[Text] In Kaliningrad oblast, each year wild and domestic animals catch rabies. Since 1950, 54 persons have also caught hydrophobia. The disease is most frequently noted in Kaliningrad and in Bagrationovskiy, Zelenogradskiy and Chernyakhovskiy rayons. The greatest number of cases of the disease occur in the spring and summer months. Of 47 patients, 17 were children up to the age of 14. The sources of the infection for most of the patients were dogs (31 of 47 cases), in 5 cases foxes, in 11 cases the source of infection was not established.

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USSR

YAKOVLEVA, T. V. and VOLKOV, V. I.

THE INTERRELATIONSHIP OF ECTOPARASITES WITH THEIR HOSTS IN THE LIFE OF MAN

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII I INVAZII DAL'N. VOST. in Russian, No 3, 1974, pp. 106-109

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.70 by N. Neuymin]

[Text] Due to the annual registration in Khabarovsk of hemorrhagic fever diseases with kidney syndrome, the seasonal and species composition of rodents and arthropods was studied. 133 small rodents of 5 species were trapped. From the rodents, 10 species of gamazid mites and 12 species of fleas were collected. In order to provide a flea comparison, collections were also made in open stations, where the animal population was found to be more highly infested with parasites.

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USSR

FEDOROVA, T. N.

THE ROLE OF THE MUSKRAT IN THE ECOLOGY OF THE OMSK HEMORRHAGIC FEVER VIRUS

Omsk VOPR. INFEKTS. PATOL. in Russian, 1975, pp. 14-23

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.63 by V. M.]

[Text] In 1960-1963, a study was made of epizooties of viral etiology among muskrats in western Siberia. The virus of Omsk hemorrhagic fever (OHF) was found in 3 regions of Omsk oblast (Tyukalinskiy, Krutinskiy and Sargatskiy), which in the past (in 1947) were unfavorable locations as to OHF. The OHF virus was isolated from the brain of muskrats even in a number of rayons of Novosibirsk, Kurgansk and Tyumen' oblasts.

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USSR

USHAKOVA, Z. N., KRASOVSKAYA, Ye. V., DYMIN, V. A. and KIRILLOV, V. A.

TICK-BORNE ENCEPHALITIS

Blagoveshchensk PRIRODNO-OCHAGOV. ZABOLEV. V AMUR. OBL. in Russian, 1975, pp. 87-92

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.62 by Ya. Tsilinskiy]

[Text] Tick-borne encephalitis is encountered in Amur oblast rather rarely. In 1955-1974, 162 cases of the disease were recorded in the oblast. Their distribution by rayons is as follows: Zeyskiy 59, Skovorodinskiy 37, Arkharinskiy 18, Selimdzhinskiy 11, Dzheltulakskiy 18, Tygdinskiy 9, Bureyskiy 4, Mazanovskiy 5 and Shimanovskiy 1. Tick-borne encephalitis is encountered primarily in the northern, northwestern and less frequently in eastern regions, i.e., in the area of extensive forests. The seasonal maximum of the disease occurs in the summer months; due to the maximization of the contact of the population with the forest during this period of time. In 7 of 41 hospitalized patients, the poliomyelitic form of tick-borne encephalitis was observed, in 13 -- the meningoencephalitic form, in the others -- the meningeal form. One case of equine epilepsy was recorded. Rodents such as mice play an

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USSR

Ushakova, Z. N., Krasovskaya, Ye. V., Dymin, V. A. and Kirillov, V. A., PRIRODNO-OCHAGOV. ZABOLEV. V AMUR. OBL. in Russian, 1975, pp. 87-92

important role in the maintenance of foci of tick-borne encephalitis in Amur oblast. Within the oblast there are 22 species of rodents, 8 of which are considered basic tick eaters and potential storers of the tick-borne encephalitis virus. These include the red, reddish-gray, Ungur and eastern voles, the chipmunk, Asiatic forest mouse, gray rat and field mouse.

USSR

PETROVA, A. S., ZHELEZOVA, N. I. and SHISHMAREVA, N. M.

SEROLOGIC RECONNAISSANCE OF TICK-BORNE ENCEPHALITIS IN VLADIMIRSKAYA OBLAST

Kaliningrad PROBL. INFEKTSION. PATOL. in Russian, 1976, pp. 50-51

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.60 by L. Zakharova]

[Text] Studies were performed in 1965 in a mixed spruce zone (Sudogadskiy and Aleksandrovskiy rayons; leading type of ticks *Ixoder ricinus*) and in a zone of mixed forest (Melenkovskiy and Gus'-Khrustal'nyy rayons; leading type of ticks also *I. ricinus*). Tick-borne encephalitis virus was not successfully isolated from these ticks. The blood serum of forest workers was studied: in the complement fixation test 642 samples, of which 124 (19.3%) were positive, in the hemagglutination inhibition test 922 samples, of which 86 (9.3%) were positive. Of 397 serum samples taken from cattle pastured in the region of the forest work, positive results in the complement fixation test were produced in 149 cases (37.5%), in the hemagglutination inhibition test in 19 of 435 serum samples (4.4%). Cases of infection of people with tick-borne encephalitis have not been recorded in Vladimirskaaya oblast.

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USSR

SOSNITSKIY, V. I., NOVYSH, Ye. M., ARTEM'YEVA, G. G.

RESULTS OF SEROLOGICAL RECONNAISSANCE FOR TICK SPRING AND SUMMER ENCEPHALITIS IN ARKHANGEL'SK OBLAST

Kaliningrad PROBL. INFEKTSION. PATOL. in Russian, 1976, pp. 48-50

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.59 by L. Zakharova]

[Text] In 1965-1970, 1308 serum samples from healthy persons not inoculated against tick-borne encephalitis from Arkhangel'sk oblast (61 populated points in all) were studied. Earlier, TE was observed in only 5 of these populated points. Positive reactions were achieved in a total of 27.3% of cases, including 42.7% of cases in titers of 1:80-1:640. The immune persons were detected with the greatest frequency in those regions where the disease had occurred earlier (Kotlasskiy rayon -- 58.9%, Kargopol'skiy -- 51.2%). A high immune level was noted also in those regions where TE was not officially recorded (Onezhskiy rayon -- 50.9%, Vinogradovskiy rayon -- 48.4%, Kholmogorskiy rayon -- 29.0%). Infected persons were found in the forested tundra (Mezenskiy rayon -- 14.8%) and the tundra (Nenetskiy national okrug -- 10.2%). A study of 233 cattle from 8 regions of Arkhangel'sk oblast revealed antibodies in an average of 18.4% of cases.

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USSR

ROSLAYA, I. G., ROSLYAKOV, G. Ye., TROP, I. Ye., VERETA, L. A., KHOKHLOVA, G. G. and BURLYAYEVA, E. M.

SEROLOGIC RECONNAISSANCE FOR VIRUSES ECOLOGICALLY RELATED TO BIRDS

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No 2, 1973, pp. 64-66

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.56 by Ya. Tsilinskiy]

[Text] The results of study of 4112 human serum samples, 2840 cattle serum samples and 1500 bird serum samples are presented. The material was collected from birds in 1970-1972 in areas of massive migration in Amur, Komsomolsk, Khabarov and Nikolayevsk rayons of Khabarovsk kray. In these same areas, cattle serum and serum from the healthy human population was collected. Antibodies against tick-borne encephalitis virus were detected in the human, cattle and bird serum in the Khabarovsk and Komsomolsk regions, endemic for this infection. The immune level among persons in various populated points varied from 1.8 to 18%. Bird serum regularly showed antihemagglutinins against tulenia virus. The percent positive findings of antibodies against this virus in titers of 1:40-1:100 in 1970 was 2.0%, in 1971 -- 4.6 and in 1972 -- 17.2%.

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USSR

Rosl原因, I. G., Roslyakov, G. Ye., Trop, I. Ye., Vereta, L. A., Khokhlova, G. G. and Burlyayeva, E. M., PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No 2, 1973, pp. 64-66

The sera of certain birds reacted with Japanese encephalitis virus, sindbis virus and American equine encephalitis virus antibodies. In evaluating these results, caution must be used, since the circulation of WEE virus in Asia has not been proven.

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USSR

VOLKOV, V. I., TROP, I. Ye., REZNIK, V. I.

RESULTS OF STUDIES OF NATURAL FOCUS DISEASES IN THE AREA OF MOUNTAINOUS LANDSCAPE OF NORTHERN Khabarovsk KRAY

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No. 2, 1973, pp. 60-63

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.53 by T. Vorontsova]

[Text] Observations were performed in the summer months of 1966, 1968 and 1969 around 6 populated points in Tuguro-Chumikanskiy and Ayano-Mayskiy rayons. 197 birds of 29 species and 73 animals of 7 species were studied. Antibodies against the tick-borne encephalitis virus were found in 10.6% of the birds and 9.5% of the animals (chipmunks and red voles). Of the birds, the highest rate of infection was found in the masked bunting. Antibodies against Burnett's Rickettsia were found in 2.5% of birds (masked bunting, nutcracker) and 1.4% of the animals (red vole). The pathogen of ornithosis evoked antibodies in 38 birds of 9 species (19.7%) and 5 animals of 2 species (7.7%). The results of the study were negative for northern Asian tick-borne rickettsia and toxoplasmosis. Studies of the blood serum of reindeer revealed antibodies against the

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USSR

Volkov, V. I., Trop, I. Ye., Reznik, V. I., PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST in Russian, No. 3, 1973, pp. 60-63.

brucellosis and tularemia pathogens and leptospirae. It is concluded that there are natural foci of tularemia, leptospirosis, tick-borne encephalitis and ornithosis in the area in question.

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USSR

SAVITSKIY, B. P.

NATURAL FOCI OF ARBOVIRUS INFECTIONS WITH ANTHROPOGENIC TRANSFORMATION OF THE LANDSCAPE

Elista PROBL. ZOOL. I FIZIOL. in Russian, 1974, pp. 66-69.

[From REFEREATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.33 by Ya. Tsilinskiy]

[Text] Economic transformation of territories and the creation of cultural landscapes over the entire area of coverage of tick-borne encephalitis virus was accompanied by an increase in the number and a change in the species composition of mammals -- participants in the dissemination and irradiation of the virus. This led not to an improvement in the health in the territory and elimination of infectious foci, but rather to the development of resistant secondary foci, drawing closer to human residential areas and improved areas. The basis of the anthropurgic foci consists of domestic animals, acting as vector consumers and reservoirs of the infection. Populated points, adjacent agricultural areas and pastures, taken together, make up the primary components of a focus, as occurs in tick-borne encephalitis foci in Belorussia. There are also secondary foci of mixed type, in which the development of the epizootic process involves both domestic and wild animals (for example foci of tick-borne encephalitis in

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USSR

Savitskiy, B. P., PROBL. ZOOL. I FIZIOL. in Russian, 1974, pp. 66-69.

southern Khabarovsk kray). Foci of this type are the most epidemiologically dangerous. Artificially maintained populations of wild animals participate in the circulation of the pathogen, increasing the intensity and stability of these foci, while inclusion in the development of the epizooties of domestic animals brings the pathogen closer to populated points and increases the possibility of infection of the human population.

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USSR

SKOLUBOVICH, G. V.,

RESULTS AND TASKS OF A STUDY OF NATURAL-FOCAL DISEASES IN THE CENTRAL AMUR REGION

Blagoveshchensk PRIRODNO-OCHAGOV. ZABOLEV. V AMUR. OBL. in Russian, 1975, pp. 6-18

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.54 by T. V.]

[Text] At the present time, the following natural focal diseases have been found in Amur oblast: leptospirosis, hemorrhagic fever with kidney syndrome, tick-borne encephalitis, tick-borne typhus, swine erysipelas, listeriosis, Q fever, toxoplasmosis, a scarlatina-like fever, ornithosis. Brief information on the extent of each of these nosologic forms in Amur oblast is presented.

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USSR

KUKLIN, V. V. and POVILYAGINA, N. S.

VIROPHORICITY OF TICKS IN VARIOUS LANDSCAPES OF ALTAY KRAY

Leningrad GEOGR. PRIRODNOOCHAG. BOLEZNEY ALTAYSK. KRAY in Russian, 1976, pp. 16-19

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.61 from the conclusions]

[Text] The virus of tick-borne encephalitis in the forested steppe landscape may be supported in nature by Dermacentor marginatus. In areas where there are no trees, the virus is supported by Ixodes persulcatus, D. marginatus, Ix. Pavlovskiy. The virophoricity of the vectors in forested areas is 2.5 times greater than in steppe areas.

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Entomology

USSR

SHAMRAY, A. F.

FAUNA OF HEMATOPHAGOUS CULICIDAE OF THE CITY OF Khabarovsk -- POSSIBLE VECTORS OF TRANSMISSIBLE HUMAN DISEASES

Khabarovsk PRIROD.-OCHAGOVYYE INFEKTSII DAL'N. VOST. in Russian, No. 2, 1973, pp. 46-48

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.46 by T. Vorontsova]

[Text] This work was performed in 1963, 1965 and 1973 in the city of Khabarovsk. Seven species of hematophagous culicidae inhabit the central portion of the city: *Aedes vexans*, *Ae. excrucians*, *Ae. cinereus*, *Ae. punctor*, *Ae. communis*, *Anopheles hyrcanus sinensis*, *Culex vagans*, the most massive of which is *Ae. vexans*. The maximum number of this species is observed in July, staying at this level until mid-September, then rapidly decreasing. During the first half of October, the mosquitos disappear. Of the total number of attacks on man, this species is responsible for 80 to 86%. Second most numerous was *Ae. excrucians* (7-9% of bites); the number of the remaining species was insignificant.

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USSR

UDC 639.32

KARPEVICH, A. F., and SUPRUNOVICH, A. V., The All-Union Scientific Institute for Fishing

CULTIVATING INVERTEBRATES AND EDIBLE SEaweeds (ON THE SECOND ALL-UNION CONFERENCE ON SALT WATER AQUACULTURE)

Moscow RYBNOYE KHOZYAYSTVO in Russian No 8, Aug 76 pp 11-14 Part I

[Abstract] Scientific bases have been developed in the Soviet Union for raising such mollusks as *Ostrea edulis*, *Crassostrea gigas*, *Mytilus galloprovincialis*, *Patinopecten jessoensis*, and others, as well as echinoderms and crustaceans, but full commercial exploitation has been moving slowly. The recent conference on salt water aquaculture considered methods for increasing seafood harvests in the Black Sea and Far Eastern waters of the Soviet Union. Topics presented included bivalve mollusks, oysters and mussels of the Black Sea, mollusks on the shores of the Caucasus, general seafood producing activities in waters of the Far East, including reports on procedures for cultivating oysters and experimental breeding of holothurians, and possible new species for commercial exploitation such as *Chlamys nipponensis* and *Mya arenaria*. New breeding waters in the White Sea and the Sea of Japan were also discussed. The report on the conference, held in the city of Kerchi in January 1976, is to be continued in a later article. One table.

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USSR

UDC 664.959

SEREBRYANNIKOV, N. V., PECHENNIKOV, V. M., AZHGIKHIN, I. S., and GANDEL', V. G., The Central Scientific Research Laboratory of the Moscow Medical Stomatological Institute

HYDROBIONTS, AN IMPORTANT SOURCE OF BIOLOGICALLY ACTIVE SUBSTANCES

Moscow RYBNOYE KHOZYAYSTVO in Russian No 8, Aug 76 pp 72-73

[Abstract] Prostaglandins are an important group of natural chemical substances containing unsaturated aliphatic acids, including the pentane chain. Prostaglandins have important functions in various animal tissues and systems, and they may be utilized in a wide range of commercial preparations. They are found in high concentrations in certain ocean dwellers, such as the coral *Plexaura homomalla*, with 1.5% dry weight in prostaglandins. Portuguese men of war, sea anemones and holothurians contain substances with the properties of curare for temporary nerve paralysis. Some fishes of the Red Sea produce substances capable of paralyzing the jaw muscles of sharks for several hours. Fats from the *Comephorus baicalensis* Pal. have been found to contain the higher aliphatic acids, arachidonic acid and pentanic acid, as well as polyenic acids that can be obtained readily without formation of steric isomers.

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USSR

UDC 614.72:547.2(476.1-211 Minsk)(048)

BOTVIN'YEVA, A. M., PIVCHENKO, A. G., and KUZNETSOVA, A. A., Minsk

CONTENT OF 3,4-BENZOPYRENE IN THE ATMOSPHERIC AIR OF MINSK

Minsk ZDRAVOOKHRANENIYE BELORUSSII in Russian No 6, 1976 signed to press
24 Feb 76 pp 85-86

[Abstract] Air sampling done around several busy highways and nine industrial areas of Minsk showed that Minsk has about the same levels of 3,4-benzopyrene pollution of the air as Moscow, Leningrad, and Tashkent. The concentrations ranged from 0.29 to 7.18 μg in 100 m^3 of air; the highest values were found on the streets where motor traffic was heaviest. Except in the vicinity of an automobile factory, the air samples contained only a small quantity of benzopyrene but an abundance of other hydrocarbons of the pyrene group, including 1,12-benzopyrene.

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USSR

UDC 615.015.4:547.391.1(048)

YEFREMOV, A. M., Novopolotsk

BIOTRANSFORMATION OF ACRYLONITRILE IN ANIMALS

Minsk ZDRAVOOKHRANENIYE BELORUSSII in Russian No 7, 1976 signed to press
3 Mar 76 pp 85-86

[Abstract] In chronic experiments (4 to 6 months) on rats, inhalation of acrylonitrile significantly increased the excretion of thiocyanates, the quantity varying with the duration of exposure and size of the dose. The highest level was reached by the end of month 6. High concentrations of thiocyanates were also found in the animals' urine 24 hours after sub-acute poisoning with the compound. This study of the biotransformation of acrylonitrile suggests that it is neutralized by the formation of thiocyanates, as proven by their increased excretion with the duration of poisoning and size of the dose. The determination of thiocyanates can therefore be used as a means of early detection of possible adverse effects of acrylonitrile in workers handling the substance.

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USSR

UDC 616.155.32-057:678.743.22]-07:616-056-076.5

FOMENKO, V. N., KATOSOVA, L. D., and PAVLENKO, G. I., Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

CYTOGENETIC ANALYSIS OF PERIPHERAL BLOOD LYMPHOCYTES OF THE WORKERS EMPLOYED IN THE VINYL CHLORIDE POLYMERIZATION PROCESS

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 5 Aug 75 pp 48-50

[Abstract] Thirty seven workers in two plants were studied, their employment ranging from 1.5 to 28 years; the control group consisted of 12 persons in the same municipal area, not employed by PVC industry. Since the relative number of chromosomal aberrations was the same for both plants, other data were combined for them. Overall, the study showed that workers employed in polymerization of vinyl chloride tended to have a relative increase in chromosomal aberrations, evidently caused by contact with vinyl chloride. Because of this finding the maximal permissible levels of vinyl chloride in air of the working area are being questioned. Figures 3; Table 1; References 6: 5 Russian, 1 Western.

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USSR

UDC 616-056.3:661.185]-032:611.77

YEREMEYEVA, L. S., and TRIKULENKO, V. I., Institute of Epidemiology and Microbiology, L'vov

EXPERIMENTAL STUDY OF THE SENSITIZING PROPERTIES OF A SERIES OF SURFACE ACTIVE AGENTS ENTERING THE BODY THROUGH THE SKIN

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Professional Diseases] in Russian No 9, Sep 76 signed to press 17 Feb 75 pp 50-51

[Abstract] Repeated application of alkyldimethylamine oxide, alkamon DS and catamine AB on skin leads to the appearance of allergic contact dermatitis with accompanying sensitization of white rats. The sensitization titres are 1:10, 1:100 and 1:1000 respectively. The following are recommended as the most suitable methods for evaluation of the allergenic reaction caused by chemicals entering the body by skin: leucocyte agglomeration reaction, leucocyte lysis, and the reaction of immunocompetent cells. No tables or figures; References 5: 3 Russian, 2 Western.

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USSR

UDC 615.917:547.538.141].092:616.36

PETROSOVA, L. A., GABRIELIAN, N. I., and IVANOVA, N. I., Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

ROLE OF THE LIVER IN PATHOGENESIS OF STYRENE POISONING

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 7 Oct 75 pp 52-53

[Abstract] Styrene was administered by gavage to 200-250 g rats at a single dose of 940 mg/kg (0.1 of the DL₅₀). At various times the content of styrene was determined in portal and hepatic veins and arterial blood. It appears that under experimental conditions, styrene enters the liver during the first hour via the portal vein. Passing through the blood saturated with styrene, the liver plays a role of a sort of buffer or stabilizer of this toxin concentration in the blood circulation system; the concentration of styrene in blood leaving the liver is much lower than that entering this organ. The effect of styrene on liver is evidently quite different from that of typical hepatotropic toxic agents. Tables 2; References 5: 4 Russian, 1 Western.

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USSR

UDC 613.632:546.811]-07:616-008.928.11-074

KATAYEVA, S. YE., and SOFRIS, YE. S., Institute of the Hygiene and Toxicology of Pesticides, Polymers and Plastics, Kiev

DETERMINATION OF ORGANIC LEAD STABILIZERS IN BIOLOGICAL MEDIA BY THIN LAYER CHROMATOGRAPHY

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 2 Feb 76 pp 55-56

[Abstract] A thin layer chromatographic method has been proposed for determination of organic lead stabilizers in blood, urine and organ tissue. The stabilizer is extracted from the biological source with chloroform, followed by separation on silica TLC, using the alizarinammonia-dithizone system as the eluant. Sensitivity of this method is 0.01 mg/l. R_f's of the lead organic stabilizers in various solvent systems are reported. Table 1; References 3: 1 Russian, 2 Western.

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USSR

UDC 616-057-036.86:061.3(47-25)"1975"

MIKOV, L. YE., Moscow

A WORKSHOP ON PROBLEMS CONCERNING EXPERT OPINIONS ON THE CAPACITY FOR WORK AND MEDICAL AND OCCUPATIONAL REHABILITATION OF PATIENTS WITH OCCUPATIONAL DISEASES

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 pp 56-67

[Abstract] The workshop was held 18-19 Dec 75 in Moscow. Five papers were presented. BELOV, V. P. discussed doctor-labor expertise in the social-labor rehabilitation of invalids. The problems of expertise on ability to work, and on medical and working rehabilitation in current clinical practice were covered by SOKOLOVA, V. V., RASHEVSKAYA, A. M., and ORLOVA, A. A., while GOL'DEL'MAN, et al., analyzed this problem in light of dust-related diseases, ASHBEL, SI., et al., -- in light of the diseases of chemical etiology, and RYZHKOVA, M. N. -- the diseases due to vibrational injuries. In general, improvements were noted in various operations resulting in lower disease incidence. Some deficiencies were noted in diagnosis and retraining. No tables, figures or references.

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USSR

UDC 613.632.633 + 614.7]-07

CHEPULIS, R. YU., Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

HYGIENIC EVALUATION OF THE ENVIRONMENT AND ITS INFLUENCE ON THE HEALTH STATUS OF WORKERS ENGAGED IN PRODUCTION OF ORGANOSILICON MONOMERS

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 27 Jan 76 pp 18-21

[Text] English language abstract supplied by author] Hygienic investigations in the industry under study showed the shop premises to be polluted with hydrogen chloride and chloro-silanes, whose content in individual sections exceeded the maximum permissible concentration roughly by as much as 6-8 times. Analysis of the atmospheric air within the residential part of the city demonstrated that at a distance of 500 m from the plant (first zone) the HCl concentration reached 2.4 mg/m³, at a distance of 1500 m (third and fourth zones) the HCl level proved below the maximum permissible concentration in the majority of samples. Among persons residing in the first zone the percentage of those suffering from respiratory affections comprised 43.7,

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USSR

CHEPULIS, R. YU., GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA No 9,
Sep 76 pp 18-21

while among those inhabitants in the third and fourth zones the respective figure was 33.7% ($T = 2.6$). In the residents of the first zone the average duration of the respiratory troubles was longer than in those of the second zone (5.9 as against 5.6 days). Significant differences were evident by comparing sick rates due to acute pharyngites, laryngites, tracheites and bronchites, as well as eye diseases between persons residing in the first and the third-fourth zones. Appropriate health measures are proposed. Tables 2; References 3: all Russian.

2/2

USSR

UDC 615.917:547.532].07:616.155.32-07

FRASH, V. N., and KARAULOV, A. V., Institute of Industrial Hygiene and Occupational Diseases, Sverdlovsk

LYMPHOPHOIESIS AND HETEROGENEITY OF LYMPHOCYTE POPULATION IN BENZENE POISONING (EXPERIMENTAL INVESTIGATION)

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 30 Jan 76 pp 30-33

[Text - English language abstract supplied by authors] The state of lymphopoiesis and of lymphocytes in the peripheral blood following an experimental subacute and chronic benzene poisoning was studied. Serving tests were determinations of lymphocytes, count, histology and cytology of the lymph nodes and spleen, lymphocytograms, toluidene-blue staining, determination of the nucleolar microstructures, distribution of lymphocytes according to their diameter, cytochemical identification of RNA, acid phosphatase and succinate dehydrogenase, lymphopoietic activity of the blood serum. With benzene poisoning, lymphopoiesis was depressed, while the heterogeneity of the lymphocytic population gained in strength, viz., on the one hand there was in evidence an increased proportion of activated lymphocytes, and on the

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USSR

FRASH, V. N., and KARAULOV, A. V., GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA No 9, Sep 76 pp 30-33

other -- signs pointing to a greater degeneration and decomposition. The significance of these phenomena is discussed. Figure 1; Tables 2; References 17: 4 Russian, 13 Western.

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USSR

UDC 616.24-003.811-057-02:613.632

ARUTYUNOV, V. D., BATSURA, YU. D., KIREYEV, V. I., and LIKHACHEV, YU. P., Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences, USSR, Moscow

DEVELOPMENT OF PULMONARY ALVEOLAR PROTEINOSIS FOLLOWING INHALATION OF SOME INDUSTRIAL AEROSOLS (EXPERIMENTAL INVESTIGATION)

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 22 Sep 75 pp 33-37

[Text English language abstract supplied by authors] The experiment was conducted on 1125 laboratory rats subjected to the action through inhalation of different types of welding aerosols originating from condensation and disintegration dust in a concentration closely approaching that encountered in the field. The following stages may be distinguished in the development of the experimental process: the primary reaction of the tissues; accumulation of matter in the alveoles; progressive development of the process attended by pneumosclerosis and emphysema; resolution of the process with possible involution of sclerosis and emphysema. Pathogenetically, the question here is of a chronic hypoxia of the pulmonary tissue accompanied by destructive
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USSR

ARUTYUNOV, V. D., BATSURA, YU. D., KIREYEV, V. I., and LIKHACHEV, YU. P.,
GIGIYENA TRUDA I PROFESSIONAL'NYE ZABOLEVANIYA No 9, Sep 76 pp 33-37

and compensatory-adaptive processes and amassment of lipo-proteinic matter in the alveoles. Investigations point to dynamic changes in alveolar contents, depending upon the periods of action. Pulmonary alveolar proteinosis (PAP) is described as a chronic affection of the lungs. PAP is, however, not regarded to be an independent nosological unity. It is a syndrome reflecting prolonged functional stress of the lungs in response to inhalation of aerosols whose composition closely matches those developing in the field. The experiment supports data on the relation of the process to industrial factors. No tables or figures; References 6: 2 Russian, 4 Western.

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Microbiology

USSR

NESTEROV, B. F., VERSHKOV, D. S., SMOLIN, B. I. and USHANOV

AN APPARATUS FOR GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 485141, Filed 5/01/71, No. 1608921, Published 15/12/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L477P by A. R.]

[Text] The apparatus suggested is distinguished by the fact that to increase the intensity of the process of growing of microorganisms, the container has a cylindrical-conical shape, injectors are installed through the height of the conical portion of the container in multiple levels, tangentially and at an angle to the horizontal plane so that their output tubes are directed upward and in the direction opposite the direction of rotation of the stirrer; the agitating device is located in the cylindrical portion of the container, the device for feeding the nutrient medium is a collector located in the circulation loop between the pump and injectors. It is equipped with a separator to separate the liquid and gas phases of the culture fluid, connected to the circulating loop pump.

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USSR

MASHANOV, A. I., GUKASYAN, A. B. and SERGEYEVA, V. L.

A NUTRIENT MEDIUM FOR GROWING OF ENTOMOPATHOGENIC CULTURES

USSR Authors' Certificate No. 485149, Filed 11/03/74, No. 2003245, Published 15/12/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L529P by A. R.]

[Text] The nutrient medium suggested for growing of *Bacillus tuviensis* is distinguished by the fact that to reduce the cost and increase the activity of bacterial preparations, the medium is supplemented by brewery wastes -- protein-wort sediment in a quantity of 1.2-2.0 wt. %.

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USSR

KALYUZHNYI, M. Ya. and NESTERENKO, L. P.

A NUTRIENT MEDIUM FOR GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 485144, Filed 19/02/74, No. 1997510, Published 15/12/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L528P by A. R.]

[Text] In order to produce a yeast biomass on this medium (*Candida scottii*) with increased nutrient capacity, the source of carbon used is the invert product of treatment of cellolignin with gaseous hydrogen chloride or concentrated hydrochloric acid, the components being taken in the following relationship (g/l): invert 30-105, phosphoric anhydride 0.75-2.5, potassium chloride 0.75-2.5, ammonium sulfate 1.5-5, water -- remainder.

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USSR

YAROVENKO, V. L., BELOZEROV, P. A., NAKHMANOVICH, B. M., USTINNIKOV, B. A., YAROVENKO, V. V., LEVCHIK, A. P., REGER, P. P. and MASLECHKINA, R. S.

A METHOD OF GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 485142, Filed 3/04/73, No. 1903276, Published 15/12/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L527P]

[Text] In order to intensify the process of cultivation of microorganisms, for example *Saccharomyces cerevisiae*, some of the yeast produced after separation of the culture fluid are treated with an antiseptic and returned to the initial process of growth to the head fermenter, while the liquid fraction is returned to the next technological process along the line; in the head fermenter, an influx of fresh medium is added to the main stream of medium. The antiseptic used to treat the yeast is ozone, treatment performed at 20-25 C to an acidity of 2-3 ml 1 n NaOH.

USSR

SVEDENTSOV, L. M., ZAYTSEV, K. P., SHLEYZER, M. N., VORONEVSKIY, S. I.

A METHOD OF PREPARATION OF A SUBSTRATE FOR THE GROWTH OF MICROORGANISMS

USSR Authors' Certificate No. 479805, Filed 3/12/73, No. 1973421, Published 24/12/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L526P by A. R.]

[Text] In order to improve the quality of the substrate and reduce its cost, manure after hydrolysis and cooling is subjected to flotation, the liquid fraction produced is treated with UV rays and subjected to second flotation. The invention is related to the agricultural, meat-milk and hydrolysis branches of industry.

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USSR

SILAYEV, A. B., VINOGRADOVA, K. A., CHERKESOVA, G. V., PETROVA, L. I., MOLOVODA, G. A. and MIRCHINK, T. G.

A METHOD OF PRODUCTION OF DEXTRANASE

USSR Authors' Certificate No. 448220, Filed 21/03/73, No. 1895089, Published 24/10/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L489P by A. R.]

[Text] The method suggested for production of dextranase from mycelial fungi utilizes the fungi *Curvularia lunata* (Walker) Boediju strain 160. The characteristics of the producing strain and conditions of growth are presented. This method produces dextranase in quantities of 7.7 units per liter in a medium of simple composition.

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USSR

MOROZOV, N. A., STREL'TSOV, V. I., VARAVINA, V. S. and USPENSKAYA, T. A.

AN APPARATUS FOR GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 490813, Filed 29/12/74, No. 1981285, Published 6/02/76

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L484P by A. R.]

[Text] In order to increase the effectiveness of the process of growing of microorganisms, each section of the apparatus except for the bottom one is equipped with a hydraulic seal containing a snake attached to the shaft, a pipe installed concentrically with the snake and a cup located over the pipe, while the apparatus is equipped with foam dampers located in the upper portion of each section. A figure is presented.

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USSR

MAKAROV, N. A., SKIBA, A. I.

AN APPARATUS FOR CULTIVATION OF MICROORGANISMS

USSR Authors' Certificate No. 452576, Filed 9/04/71, No. 1639782, Published 21/10/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L483P by A. R.]

[Text] The apparatus suggested is distinguished by the fact that to intensify mass transfer, the outer surfaces of the turbine discs of the agitator are made wavy, while the channels of the agitator are directed transversely from the upper diffuser to the lower surface of the guide device and from the lower diffuser to the upper surface. A schematic diagram is provided.

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USSR

ANNENKOV, V. V., MAKAROV, N. A., MAKSIMOV, M. G. and SMOLIN, B. I.

AN APPARATUS FOR GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 486042, Filed 6/07/70, No. 1448257, Published 21/01/76

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L482P by A. R.]

[Text] The apparatus suggested is distinguished by the fact that to provide preliminary mixing of nutrient components and accelerate feed of the nutrient components into the culture fluid, in the upper portion of the shaft is a receiving funnel, while inside is an additional spiral. Beneath the funnel on the shaft is a disc for damping of foam. A schematic diagram is presented.

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USSR

MAKAROV, N. A. and MAKSIMOV, M. G.

APPARATUS FOR GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 486041, Filed 23/12/69, No. 1387902, Published 21/01/76

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L481P by A. R.]

[Text] The apparatus presented is distinguished by the fact that to increase the effectiveness of the process of mass transfer, the agitator has apertures for delivery of recirculating gas, located on the axis of the blades, while along the shaft is a spiral with a flange on the outside edge. The agitator is connected at the top and the bottom to diffusors. A figure schematically shows the apparatus suggested for growing of microorganisms.

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USSR

MATUSYAN, B. I., VOINOV, V. A. and ISROTNIKOV, S. Z.

AN APPARATUS FOR GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 485143, Filed 23/07/73, No. 1948353, Published 15/12/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L480P by A. R.]

[Text] In order to intensify the process of growing of microorganisms in the device suggested, an aerating device is made in the form of a horizontally placed hollow shaft with blades and apertures located between the blades, the air feed tube is connected to the hollow shaft; the apparatus is equipped with an impeller to create an air flow across the set of pipes. A diagram of the device suggested is presented.

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USSR

ZAKHARCHENKO, N. Ye., BOBOSHKO, V. I. and KHANUKAYEV, Ya. A.

SYSTEM FOR AUTOMATIC TESTING OF QUALITY INDICATORS IN THE PROCESS OF GROWING OF MICROORGANISMS

USSR Authors' Certificate No. 489784, Filed 20/11/73, No. 1972149, Published 4/02/76

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L479P by A. R.]

[Text] The system suggested is distinguished by the fact that to test the qualitative indicators for groups of fermenters, it is equipped with a group control device, sections of input valves, output contacts, memory and cycle matching sections and a blocking device; the inputs of the latter are connected to the corresponding control outputs of the device for determination of the end of the process and outputs of the group control device, while the outputs are connected to the input valve unit. A drawing shows the automatic control system for the quality indicators in the process of growing of microorganisms.

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USSR

SEMENOV, Ya. V., REDIKUL'TSEV, Yu. V., REVENKO, S. K.

A DEVICE FOR PREPARATION AND SUPPLY OF A MIXTURE OF GASES

USSR Authors' Certificate No. 485148, Filed 12/07/73, No. 1951600, Published 15/12/75

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L478P]

[Text] The device suggested is distinguished by the fact that to assure accuracy, simultaneity and continuity of feed of gases into a fermenter and automatically adjust the flow rate and ratio of the components of the mixture, it has similar dosing devices, installed parallel to the main pressure sensors, located correspondingly in the dosing devices and fermenter, also equipped with pCO_2 sensors and the oxidation-reduction potential sensor; all sensors are connected to the input of the control system by valves. A diagram of the device suggested is presented.

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USSR

UDC 613.644-07:612.85]:622

KORNILOV, A. N., and IZRANTSEVA, YE. I., Institute of the Hygiene of Sea Transport, Leningrad

EVALUATION OF THE INTEGRAL EXPOSURE ENERGY LOAD ON THE AUDITORY ANALYZER IN MINERS

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 17 Jul 75 pp 44-45

[Abstract] Total exposure level of the noise level energy of about $4 \text{ kVt} \cdot \text{h/m}^2$, reached by the study group miners in 15 work years on the average led to occupational injury of the hearing organ in about 75% of cases studied. Equivalent energy level of the noise is about 99dB A surpassing the maximum permissible level of 85 dB A. A correlation has been found ($r = 0.77$) between the integral exposure energy noise level on the hearing analyzer and the degree of tonal threshold elevation at average vocal range. Tables 2; References 3: 1 Russian, 2 Western.

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USSR

UDC 612.766.1+613.6]:621.397.331.24

MIROSHNICHENKO, A. B., KOPEYKIN, N. F., and KROZ, S. F., Oblast' and Municipal Sanepidstation, Voronezh

PHYSIOLOGICAL-HYGIENIC CHARACTERISTICS OF THE WORKING CONDITIONS OF THE INSPECTORS OF TV PICTURE TUBES MANUFACTURING

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 25 Jul 75 p 46

[Abstract] Inspectors of the TV picture tubes work for 8 hrs without a break except for a twenty minute lunch period. On the basis of a questionnaire, it has been established that towards the end of a shift the inspectors complained of back aches, pain in extremities and poor sleeping habits. Two thirds of them complained of eye pain. Investigation of working conditions showed that the principal causes for the discomfort were: the noise, irrational organization of the working areas and of the work itself, which requires considerable physical and mental stress. Inspectors showed increased pulse rates, greater degree of finger tremor, longer latent reaction period to light stimuli and increased error rate in examining Gruenwald-Kosilov tables. No references, tables or figures.

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USSR

UDC 613.644+616-001.34-057-084]:656.18

SHEYMAN, L. S., MIKULINSKIY, A. M., and SHCHERBAKOV, YE. N., Institute of Industrial Hygiene and Occupational Diseases, Gor'kiy

AN ANALYSIS OF MOTOROLLERS VIBRATION AND ISSUES CONCERNED WITH THE DRIVERS PROTECTION AGAINST VIBRATION

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 3 Jun 75 pp 4-7

[Text - English language abstract supplied by authors] An analysis of steering-handle vibration spectra in 5 motorollers manufactured by the Tula machine building plant showed the drivers and testers to be subjected during the operation of the vehicle to the effect of local vibration exceeding the set vibration rate levels in the octave bands with geometrical mean frequencies of 63, 125 Hz by an average of 3-6 dB. Vibration of such parameters produces in testers and drivers (with service record in this occupation of 10 and more years) some changes in the level of the peripheral hemodynamics, sensory sphere and motor system of the hands. To provide for vibroprotection of the driver the authors have designed, cojointly with the chief designer's office, and then tested essentially novel vibroprotective steering handles with pneumatic 1/2

USSR

SHEYMAN, L. S., MIKULINSKIY, A. M., and SHCHERBAKOV, YE. N., GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA No 9, Sep 76 pp 4-7

shock absorption that ensures reduced vibration of the steering handle of the motor vehicles below permissible values. Figures 2; no tables or references.

USSR

UDC 613.644-07:612.833.85

MOROZ, B. S., and PAL'GOV, V. I., Institute of Otolaryngology, Medical Institute, Kiev

ON THE PHYSIOLOGICAL AND HYGIENIC EVALUATION OF THE AUDITORY REFLEX

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 30 Jun 75 pp 7-11

[Text - English language abstract supplied by authors] The thresholds and the period of the auditory reflex action of the human middle ear muscles were studied by the method of dynamic impedance measurement in 20 persons with normal hearing. The auditory reflex thresholds stand at a comparatively high level of 75 and more dB. Their actual values depend on the duration of the frequency spectrum of the acoustic stimulator. The auditory reflex originated and lasted during the whole period of the hearing stimulation with the broad band noise and low frequency sounds. When audition is stimulated with sounds of 2000 and 4000 Hz the action of the auditory reflex proved in a number of cases to be much shorter than that of the acoustic stimulator. Following a noise load, the time of the auditory reflex action was reduced still further. Investigations of
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USSR

MOROZ, B. S., and PAL'GOV, V. I., GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA No 9, Sep 76 pp 7-11

audition functions by the method of dynamic impedance measurement is a promising objective test suitable for assessing the fitness of subjects to work when exposed to intensive noise, and also for diagnosing and prognosing occupational affections of hearing. Figures 3; Table 1; References 8: 3 Russian, 5 Western.

2/2

RUSTAM-ZADE, CH., PONOMAREVA, N. I., GUSHCHINA, E. T., and SYROMYATNIKOV, YU. P., Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

ON THE ASSESSMENT OF THE EFFECT PRODUCED BY THE WHOLE-BODY VIBRATION AND NOISE ON THE ACOUSTIC FUNCTION

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 14 Nov 75 pp 11-14

[Text - English language abstract supplied by authors] Data on the study of the acoustic function in weavers are reported. In the weaving department wide-band noise of 96-101 dB is generated. On the first floor the whole body vibration is insignificant, on the 2-4th floors it exceeds CH-245-7 by 5-7 dB in the frequency range of 2-16 Hz. Possible losses of hearing during every year of work within the zone of vocal frequencies and at that of 400 Hz were determined. This comprised, during the first 10 years of work, 0.9 and 2.7 dB; in the course of the second decenium -- 0.3 and 0.7 dB; and in the third decenium -- 0.5 and 0.3 dB respectively. Somewhat greater losses of hearing were recorded at frequencies of 125 and 250 Hz in female weavers subjected simultaneously to the action of noise and vibration. The authors believe
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USSR

RUSTAM-ZADE, CH., PONOMAREVA, N. I., GUSHCHINA, E. T., and SYROMYATNIKOV, YU. P., GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA No 9, Sep 76 pp 11-14

that the HPT of the hearing may be used as a test determining the individual sensitivity of the hearing organ to the noise, while for evaluating individual means of protection against the noise it is more expedient to test them, along with laboratory, also in actual shop conditions. Figure 1; Tables 2; References 10: 6 Russian, 4 Western.

USSR

UDC 613.6+614.1:313.13]:634.0(571.5)

ZAVGORUD'KO, V. N., Medical Institute, Khabarovsk

WORK CONDITIONS AND DISEASE INCIDENCE WITH TEMPORARY INCAPACITATION IN THE DISTRICT OF NEW DEVELOPING TIMBER LOGGING AND WOOD WORKING COMPLEX IN THE EASTERN SECTOR OF THE BAIKAL-AMUR R. R. TRUNK LINE

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 11 Sep 75 pp 14-18

[Text - English language abstract supplied by author] Among all occupational groups engaged in pilot timber felling and wood working economy, the highest sick rate is recorded in those workers who do the main timber felling jobs, viz. tree fellers and their assistants, branch chippers, tractor drivers and loggers engaged in transportation of the lumber. The prevention of disease-incidence among forest workers should be aimed first of all at reducing the number of bad colds, affections of the peripheral nerves, bone and muscle system and suppurative affections of the skin. Female labor should be completely barred from timber procurement industry. The analysis into the disease incidence among lumber procurers in this area may be used in forecasting sick rates among the construction workers in the eastern sector of the Baikal-Amur R. R. trunk line. Tables 3; Figures 2; References 8: all Russian.

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USSR

UDC 616-057+616-057-036.86]:313.13(470.311)

MAL'TSEVA, L. M., LYUBCHENKO, P. N., YANOVSKAYA, M. G., KATS, A. L., and BOYARCHUK, Z. I., Oblast' Clinical Institute imeni M. F. Vladimirskiy, Oblast' Sanepidstation, Moscow

SOME INDICATORS OF OCCUPATIONAL DISEASES INCIDENCE AND DISABLEMENT AMONG WORKERS IN MOSCOW OBLAST'

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 4 Dec 75 pp 38-40

[Abstract] Study of occupational diseases in the Moscow Oblast' showed a drop in the last five years in the industry as a whole. For individual professions, however, disease incidence may have increased. The highest incidence of occupational sickness was shown in chemical industry, where occupational dermatoses led the field, followed by chronic intoxications (mostly due to H₂S) and acute toxicity (CO, H₂S) and acute toxicity (CO, H₂S). Among the physical factors the vibrational disorders led the way often accompanied by secondary manifestations of various derived problems. Considerable number of workers suffer from dust pathology of the lungs, pneumoconiosis, silicosis, silicotuberculosis, etc. About 13% of the cases registered with disorders of nervous system and musculature. Table 1; one Russian reference. 1/1

USSR

UDC 616-057-07:616.15-07

SOKOLOV, V. V., GRIBOVA, I. A., RASHEVSKAYA, A. M., and ZORINA, L. A., Moscow Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Central Institute for the Advanced Training of Physicians

SIGNIFICANCE OF HEMATOLOGICAL INVESTIGATIONS IN CURRENT CLINICAL ASPECTS OF OCCUPATIONAL DISEASES

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 12 Feb 76 pp 25-29

[Abstract] A review type article showing that hematologic studies aid in solving many theoretical and practical problems of current occupational pathology. Principal directions in development of blood system studies are determined by scientific progress, successful implementation of control measures aimed at improvement of production areas and by occupational pathology characteristics. Professional hematology will develop successfully only in connection with the hygiene, toxicology and clinical studies of occupational diseases and with general hematology and other neurological disciplines. At the same time a spectrum of data obtained in the studies of occupational diseases exceeds the boundaries of this discipline, becoming important in general therapy, hematology, cytology, etc. No figures or tables; References 34: 22 Russian, 12 Western. 1/1

USSR

UDC 911.3:/614.1:312.6/

MUSNITSKAYA Ye. N., AKHMINA, N. I., OKULOV, A. B., ABROSIMOVA, N. A.

MEDICAL-GENETIC EXAMINATION OF THE POPULATION OF WESTERN PAMIR

ZDRAVOOKHR. TADZHIKISTANA in Russian, No 1, 1976, pp. 13-17

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.21 by L. Zakharova]

[Text] In the summer of 1971, examinations were conducted of the population of difficultly accessible regions (isolates) in the Bartang River gorge at 2000-3500 m altitude above sea level. 1098 persons were examined (including 649 children up to 18 years of age). An insignificant number of diseases of the cardiovascular system was found (in 0.89%, high blood pressure was noted). The frequency of gastrointestinal disease among adults (17.3%) is relatively high, which may result from hereditary or exogenous factors. A significant number of cases of disorders of the skeletomuscular apparatus was observed (12.3%). In 3% of homozygous males, a deficiency of H6PD was noted. Among children up to 3 years of age, in 71 cases (of 115), rickets was observed. Among both the adult (62.0%) and juvenile (23.2%) populations, multiple dental caries were found. In 138 children, the reaction to mucopolysaccharides was positive. 4 references.

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USSR

SOLOMATIN, A. P., PETROV, R. A., SHISHKINA, G. I., SOBOLEVA, Z. I., KOKH, V. K.

CLINICAL-EPIDEMIOLOGICAL CHARACTERISTICS OF MYOCARDIAL INFARCT UNDER THE CLIMATIC AND GEOGRAPHIC CONDITIONS OF YAKUTIA

Novosibirsk MED.-BIOL. ASPEKTY PROTSESSOV ADAPTATSII in Russian, Nauka Press, 1975, pp. 240-243.

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No 7.36.35 by L. Z.]

[Text] Analysis of 165 case histories (106 males and 59 females) of myocardial infarct patients arriving at Yakutsk Hospital during 1970-1973 and 5 months of 1974 is presented. The native population was represented by 15 persons, immigrants -- 150 persons, those involved in mental labor -- 40 persons, physical labor -- 48, pensioners, housewives and invalids -- 74. The greatest number of incidents of the disease was observed in the winter (35% of all cases) and fall (25%), the least -- in the spring (May). Complications of myocardial infarct, appearing in 109 patients, are analyzed.

USSR

YAG'YA, N. S.

CHRONIC MORBIDITY OF SKELETOMUSCULAR SYSTEM DISEASES AND CONNECTIVE TISSUE
DISEASES IN THE POPULATION OF THE FAR NORTH

Novosibirsk MED.-BIOL. ASPEKTY PROTSESSOV ADAPTATSII in Russian, Nauka Press,
1975, pp. 252-254.

[From REFERATIVNYY ZHURNAL MEDITSINSKAYA GEOGRAFIYA No 7 1976 Abstract No
7.36.38 by L. Zakharova]

[Text] The chronic morbidity of diseases of the bones, joints, muscles and connective tissue (class XIII diseases) in Yakutsk is 252.9 per thousand inhabitants (in Leningrad 102.1). Diseases of class XIII are more frequently recorded in adults than in children (in Yakutsk, 334.9 and 57.8 per thousand, in Leningrad 107.5 and 59.8 respectively). Of all diseases of class XIII, the most frequent syndrome is vertibrogenous pain (morbidity 114.0 per thousand); more frequent in men than in women. Diseases of the bones, muscles and joints are more frequently suffered by blue collar workers (430.4 per thousand persons) than white collar workers (244.7), some of whom are involved in physical labor in the open air.

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USSR

UDC 613.645

OVCHINNIKOV, B. V., and KOMYAGIN, K. G., Optical Institute imeni S. I. Vavilov, Leningrad

INACCURATE ESTIMATIONS IN HYGIENIC ASSESSMENT OF THE CONDITIONS OF WORK
CONNECTED WITH INDUSTRIAL SOURCES OF RADIATION ENERGY

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 5 Jan 76 pp 40-41

[Abstract] The effect of radiation energy on the human body depends on the intensity and duration of this effect as well as on the distribution of the radiation intensity energy in the spectrum of the beam source. It has been established that even among the most fundamental studies, inaccuracies crept into the calculation of the spectral distribution of the intensity of radiation sources, which depending on the scale used, could give different end results. The authors believe that the logarithmic scale should be used in hygienic evaluations of occupational hazards. Using tables of M. M. Bramson and M. M Gurevich, the authors calculated total intensity of the radiation for selected wave lengths. Table 1; References 4 (Russian).

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USSR

UDC 616.2-02:613.1]-085.831.7-039.71

MOLCHANOV, YU. S., and BELETSKIY, V. V., Sanepidstation of the Southern Railroad, Khar'kov

UTILIZATION OF LOW INTENSITY INFRARED IRRADIATION AS A PREVENTIVE MEASURE FOR COLDS

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA [Industrial Hygiene and Occupational Diseases] in Russian No 9, Sep 76 signed to press 5 Nov 75 pp 42-43

[Abstract] Results are reported of the use of low intensity infrared irradiation as a prophylactic measure for common colds. It appeared to be successful since the level of acute respiratory diseases was lowered in the experimental group. The method is simple, requiring no large investment of capital nor of medical personnel. It could be installed in the shower rooms, operated by workers themselves. Irradiation with IR should be performed in periods of high incidence of colds. Tables 2; References: 21 (Russian).

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USSR

PORTNOVA, M. S., MULYARCHUK, M. D., RADOVETS, L. V. and LEVCHENKO, I. G.

DRY ANIMAL FEEDS FROM MEAT PRODUCTION WASTES

NAUCH. TR. UKR. S.-KH. AKAD. in Russian, No. 191, 1976, pp. 65-70

[From REFERATIVNYY ZHURNAL HIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.435 from the resume]

[Text] Methods and technology are developed for production of hydrochloric acid protein hydrolysates of three types containing 40, 20 and up to 2.0% Na. Industrial production of protein hydrolysate is organized in the amino acid shop of the Kiev Meat Combine. Scientific-production experiments performed during 1964-1974 at the Poltava Scientific Research Institute for swine breeding has demonstrated the possibility of using type II protein hydrolysate to replace 20% and type III hydrolysate to replace 10% of the protein in the basic ration of swine without reducing the mean daily weight gain, return on feed and meat quality. Type I protein hydrolysate is intended to replace 25% of the milk protein in the composition of whole milk substitutes for calves and piglets, type II -- for the feeding of swine and poultry in the composition of feed mixtures and for the production of protein-fat concentrates; type III, due to the high content of Na chloride, is added to meat and bone meal at not

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USSR

Portnova, M. S., Mulyarchuk, M. D., Radovets, L. V. and Levchenko, I. G.,
NAUCH. TR. UKR. S.-KH. AKAD. in Russian, No 191, 1976, pp. 65-70

over 5%. The consumption of protein hydrolysate does not lead to deterioration in the slaughtering qualities or changes in the internal organs of the swine. The inclusion of protein hydrolysate in the feed of swine does not reduce the digestibility of nutrient substances and facilitates better utilization of the digestible portion of the N. No significant differences were noted in the meat of the experimental swine, determined by physical-chemical or organoleptic indicators.

USSR

GLADKAYA, V. F., ALESHINA, V. F., KUZNETSOV, V. A., TKACHEVA, N. N., GUSEV, V. N. and KONOVAL, V. I.

PRODUCTION OF ENRICHED COARSE FEEDS FROM SUNFLOWER SEED HULLS

NAUCH. TR. UKR. S.-KH. AKAD. in Russian, No 191, 1976, pp. 27-29

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.438 from the resume]

[Text] For a number of years, hulls, enriched with lipids, have been used by Crimean oblast kolkhozes to feed sheep, cattle and ducks. The kolkhozes have reported that it has a positive influence on the productivity of the animals and the quality of products.

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USSR

DUDKIN, M. S., LUKINA, G. D. and ARESHIDZE, I. V.

SEAWEED AS A NEW FEED PRODUCT

NAUCH. TR. UKR. S.-KH. AKAD. in Russian, No. 191, 1976, pp. 18-20

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.440 from the resume]

[Text] Seaweed, due to its chemical composition, is a full value feed grass. A method has been developed for production of a new feed product on the basis of seaweed -- common eel grass and urea. A highly effective nitrogen-containing product is produced, rich in valuable micro- and macro-elements, essential amino acids, easily digestible in vitro.

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USSR

SAFRONOVA, L. G. and KUZNETSOVA, T. T.

INFLUENCE OF BENZOIC AND FORMIC ACIDS ON SILAGE MICROFLORA

BYUL. NAUCH.-TEKHN. INFORM. SIB. N.-I. I PROYEKT.-TEKHNOL. IN-TA ZHIVOTNOVSTVA
in Russian No 11, 1975 pp 14-18

[From REFERATIVNYY ZHURNAL ZHIBOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8, 1976 Abstract No 8.58.447 from the resume]

[Text] Formic acid, in concentrations of 0.2-0.3%, caused the death of lactic acid, decay bacteria, yeasts and the fungus *Rhizopus nigricans*. It has a bacteriostatic effect on *penicillium* sp. *Aspergillus flavus* can develop in the presence of formic acid. Benzoic acid, at the same concentrations, suppressed the growth of decay bacteria, yeasts and fungi. Lactic acid bacteria can develop in the presence of benzoic acid, but their growth is depressed and the degree of depression increases with increasing concentration.

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USSR

IL'INA, K. A., NIKITIN, B. N. and SUTORMINA, N. V.

CHEMICAL COMPOSITION AND FEED ADVANTAGES OF CORN PROPIONATE SILAGE

IZV. AN KAZSSR. SER. BIOL. in Russian, No. 1, 1976, pp. 27-33

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.448 from the resume]

[Text] A dry leaven of propionate bacteria is used to ensile corn in various regions of Kazakhstan and other areas of our country. This produces moderately acid silage with pH 4.0-4.3 and a higher retention of nutrient substances, particularly vitamin B₁₂. The effectiveness is shown of feeding propionate corn silage to cattle in experiments at "Kamenskiy" breeding sovkhov. The fat and protein content of the milk is increased by 0.2-0.3%, carbohydrate metabolism is normalized. Universal application of corn silage enriched with propionic acid, vitamins and protein substances in animal husbandry practice could to some extent solve the problem of prophylaxis and control of acidification of the organism of high productivity animals fed on silage and facilitate an increase in the quality of the products.

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USSR/BULGARIA

KANEV STOYAN, LALOV NIKOLA, NAKOV STOYAN, RIBAROV ZDRAVKO

TESTING OF RATIONS FOR COMMERCIAL RAISING OF CATTLE

ZHIVOTNOV'DNI NAUKI in Bulgarian, Vol. 12, No. 7, 1975, pp. 40-46

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 7 1976 Abstract No 7.58.391 from the resume]

[Text] A year-round experiment was performed with two groups of spotted black cows, covering the entire dry and lactation periods. The tests involved multiple diets based on flour made of whole corn or barley plants. The control group ate a bulk mixture including flour made of whole corn or barley plants (from 65.3 to 91.3%) and flour made of lucerne and lucerne or feed corn during the summer and corn or lucerne silage during the winter. The experimental group of cows ate feed mixtures also including flour made of whole corn or barley plants (from 61.8 to 71.8%) and lucerne flour. Furthermore, the animals were provided year round with uncut lucerne hay. The mixtures did not include protein feeds. With year-round utilization of constant, multidiet, dry feeds, also including mixtures and lucerne hay, the mineral metabolism and physiological status improved during calving and afterward. There was a tendency toward increased fertility of cows, a reduction in absolute sterility and an increase in milk given.

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USSR/BULGARIA

KHARALAMBIYEV KHARALAMBI, PAVLOV NEDYALKO, TSVETKOV PETKO

STUDY OF VIRAL DIARRHEA OF PIGLETS

VETERINARNOMED. NAUKI in Bulgarian, Vol. 13, No. 1, 1976, pp. 71-79

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 7 1976 Abstract No 7.58.528 from the resume]

[Text] A description is presented of the course of an enzooty of viral diarrhea of piglets from 40 to 180 days of age with 50% morbidity and 28% mortality. The pathomorphological studies established erosion and inflammatory changes in the mouth, abomasum, rumen and small intestine. Histologically, degeneration of the damaged cells and karyopycnosis were found. Viral strains were isolated from the spleens of the affected pigs, which were identified with the virus of mucosal disease (VMB-VP). Immunodiffusion established the specific viral antigen in the damaged mucosa of the digestive canal. Live vaccine was found to be a promising immunoprophylactic agent.

USSR/BULGARIA

DIMITROV KONSTANTIN

EXPERIMENTS FOR DETERMINATION OF IMMUNIZING DOSES IN ONE VACCINE DOSE OF DRIED
LAPINIZED HOG CHOLERA VACCINE

VETERINARNOMED. NAUKI in Bulgarian, Vol. 13, No. 1, 1976, pp. 59-62

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 7 1976 Abstract No 7.58.522 from the resume]

[Text] Animals were immunized with 100-, 200-, 300-, 400- and 500-times
dilution of the vaccine dose. Two weeks after this, the animals were infected
with 10^6 LD₅₀ of the pathogenic virus of hog cholera. The immunization doses
for the individual series of vaccines were from 100 to 400 per vaccine dose.

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USSR /BULGARIA

PLATIKANOV NIKOLA, ANGELOV ANGEL S., K'NEV MITYU, PANAYOTOV PET'R, DZHAROVA
MARGARITA

THE CONSUMPTION OF ENERGY, LYSINE AND METHIONINE WITH CYSTINE BY YOUNG PIGS

ZHIVOTNOV'DNI NAUKI in Bulgarian, Vol. 12, No. 8, 1975(1976), pp. 30-42

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 7 1976 Abstract No 7.58.444 from the resume]

[Text] Results are presented from 4 scientific-economic and 1 balance
experiment included in the last scientific-economic experiment. Two of the
4 experiments were performed with 5 groups of piglets, each feeding freely,
1 -- also with 5 groups, but with normalized feeding, the fourth with 4
groups, 2 feeding freely and 2 normalized. In all 3 experiments, the effect
of the addition of synthetic L-lysine and DL-methionine was determined, in
the 4th experiment -- the effect of the addition of lysine and an increase
in the energy level of feeding was determined. The standard ratio for the con-
trol group was as follows: energy level intermediate between Soviet and
Danish energy norms; content of proteins lysine and methionine plus cystine --
according to NRC norms. Summarization of the results of 8 experiments and
discussion of these results together with the literature data on the question
at hand proved that the highest mean daily weight gain with least feed

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USSR /BULGARIA

Platikanov Nikola, Angelov Angel S., K'nev Mityu, Panayotov Pet'r, Dzharova Margarita, ZHIVOTNOV'DNI NAUKI in Bulgarian, Vol. 12, No. 8, 1975(1976), pp. 30-42.

expenditure per kg weight gain with a standard ration based on corn and barley is produced with free feeding of the ration containing 18, 16, 14 and 12% of raw protein and 1.0, 0.90, 0.80 and 0.64% lysine with weighing periods of up to 25, 25 to 30, 35 to 60 and over 60 kg of live weight respectively.

USSR

PECHERSKIY, L. S. and GLUSHICH, V. I.

INFLUENCE OF LEVEL OF PASSIVE ANTIBODIES ON THE FORMATION OF POST VACCINE IMMUNITY TO VIRAL PSEUDOPEST IN POULTRY

BYUL. VSES. IN-TA EKSPERIM. VET. in Russian, No. 21, 1975, pp. 32-43

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 7 1976 Abstract No 7.58.541 from the resume]

[Text] The presence of passive antihemagglutinins has a negative influence on the formation of specific antibodies upon immunization with vaccine from the La Sot strain. Vaccination of chicks at an early age with a high titer of passive antihemagglutinins causes a sharp drop in their level.

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USSR

ARSHAKUNI, G. A., MELIKYAN, V. G., SARKISYAN, G. Ye. and MARDZHANYAN, D. S.

RESULTS OF SEROLOGIC AND BACTERIOLOGIC STUDIES OF BRUCELLOSIS OF AGRICULTURAL ANIMALS

IZV. S.-KH. N. in Armenian, No. 9, 1975, pp. 93-98

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 7 1976 Abstract No 7.58.547 from the resume]

[Text] A study was made using the AR and CST, of 317 head of cattle, 292 sheep and 135 swine, arriving at the Yerevan meat combine from 18 regions and 52 unsuccessful farms. 38.5% of the cattle, 31.6% of the sheep and 73.4% of the hogs reacted to brucellosis. From the slaughtered animals, 24 brucellosis cultures were isolated, 4 from cattle, 5 from sheep and 15 from hogs. Migration of melitensis from smaller animals to cattle is established.

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USSR

YAKOVLEV, P. D. and MOLODTSOV, G. P.

USE OF VITAMIN PROTEIN PASTE (WHALE BOUILLON) TO FEED YOUNG GROWING PIGS

SB. NAUCH. TR. PRIMORSK. S.-KH. IN-T in Russian, No. 34, 1975, pp. 136-143

[From REFERATIVNYY ZHURNAL ZIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 7 1976 Abstract No 7.58.437 from the resume]

[Text] In 4 experimental groups of piglets, the influence of whale bouillon on growth and development was studied. The main experiment lasted 158 days. Whale bouillon at 3.9% of the diet increased the weight gain by 3, 5.9 and 6.7% in comparison with the control.

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USSR

FILATOV, I. I., KUZNETSOVA, T. T. and SAFRONOVA, L. G.

USE OF BENZOIC ACID FOR CONSERVATION OF LUCERNE AND HUNGARIAN BROME

BYUL. NAUCH.-TEKHN. INFORM. SIB. N.-I. I PROYEKT.-TEKHNOL. IN-TA ZHIVOTNOVODSTVA in Russian, No. 11, 1975, pp. 3-13

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.449 from the resume]

[Text] The introduction of benzoic acid in a dose of 0.1-0.3% for brome and 0.2-0.4% for lucerne inhibited the development of decay, coli-like, butyric acid bacteria, fungus and yeasts. With increasing dose of the conservant, the degree of inhibition increased. The effect of benzoic acid on lactic acid bacteria was manifested variously, depending on the material being ensiled and the dose of conservant. In lucerne silage, benzoic acid in a dose of 0.2-0.3% did not suppress lactic acid bacteria, while a dose of 0.4% had a slight inhibiting influence. In brome silage, at a dose of 0.2 and 0.3% the development of the lactic acid bacteria was suppressed. Benzoic acid helped to reduce the losses of nutrient substances and improve the quality of the silage. The recommended dose of benzoic acid for brome silage is 0.2, lucerne silage -- 0.3% of the total mass.

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USSR

RESHETOV, V. B. and NADAL'YAK. Ye. A.

METHODS OF DETERMINATION OF THE EFFECTIVENESS OF UTILIZATION OF THE ENERGY IN
FEED BY ANIMALS

NAUCH. TR. VNII FIZIOL., BIOKHIMII I PITANIYA S.-KH. ZHIVOTNYKH in Russian,
1975, No. 14, pp. 363-371

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.454 from the resume]

[Text] In order to determine the effectiveness of utilization by animals of
the energy in feeds, depending on the equipment available in the laboratory,
methods of varying accuracy and complexity can be used. If respiration
chambers are not available, it is desirable to use a combination of the
classic metabolic experiment with determination of heat formation by the
mask method. A number of approaches are described allowing direct determin-
ation of calorie content of substances to be replaced by calculation methods.
It is noted that when feeds which are unusual for ruminants (granules) are
used, it may be necessary to make changes in the methods used to determine the
metabolic energy value of the feed.

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USSR

PETROVA, M. S., KNYAZEVA, N. I., IZMAYLOV, N. A. and ATAMAS', V. A.

THE COURSE OF INFLUENZA IN CATTLE

VIRUSY I VIRUS. ZABOLEVANIYA. RESP. MEZHVED. SB. in Russian, Vol. 196, No. 4,
pp. 43-44

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.646 from the resume]

[Text] Epizootological, epidemiological, pathological-anatomical, bacterio-
logical, virological and serological studies performed indicate that an outbreak
of influenza caused by virus A2 (Hong Kong) occurred among the cattle of the
kolkhoz imeni Lenin of Kodymskiy rayon, Odessa oblast.

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USSR

BRONNIKOV, A. K.

DETERMINATION OF LATENT FORMS OF BRUCELLOSIS USING INTERNAL ADMINISTRATION OF BRUCELLINE

Blagoveshchensk BOR'BA S BOLEZNYAMI S.-KH. ZHIVOTNYKH V ZABAYKAL'YE I NA DAL'N. VOST. VYP. 2 in Russian 1975 pp. 17-19

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.663 from the resume]

[Text] The method of provocation was used, the essence of which is as follows: blood samples were taken from all experimental animals for a brucellosis study using the agglutination reaction and the complement fixation test and, at the same time, brucelline was administered in a sub-titer dose: 2 ml for cattle and 1 ml for sheep. After 48 hours, blood samples were taken once more and brucelline administered in the same dose, then on the next day the animals were studied serologically. The experiment was performed on 93 cows, 47 of which were given antibrucellosis vaccine from strain 19 5 1/2 years earlier, 46 -- 3 1/2 years earlier. The sheep consisted of two groups, in which 24 sheep had been given the same vaccine 2 years and 6 months earlier, 46 -- 2 years and 10 months earlier. The results of the serologic studies showed that in the cattle and sheep, long after vaccination, with i/v administration of

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USSR

Bronnikov, A. K., BOR'BA S BOLEZNYAMI S.-KH. ZHIVOTNYKH V ZABAYKAL'YE I NA DAL'N. VOST. VYP. 2 in Russian 1975 pp. 17-19

brucelline the remaining AR titer increases and the titer lost is restored. This method was used to perform an experiment in a kolkhoze with an unfavorable brucellosis situation. Of 218 cows before i/v administration of brucelline, the AR and CFT were positive in 7, while after administration of brucelline, 2 more positive reactions and 6 doubtful reactions appeared.

USSR

YEFREMOV, A. N., KABLAHOV, I. Sh., OL'KHOVSKIY, V. P. and SALIYEV, I. I.

USE OF STRAW TREATED WITH CAUSTIC SODA, LIME AND CARBAMIDE IN THE PRODUCTION OF FULL RATION GRANULATED FEED MIXTURES

Stavropol' RAZVEDENIYE. TEKHNOL. KORMLENIYA. SHERSTOVEDENIYE in Russian, 1975, pp. 293-296

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.441 from the resume]

[Text] The treatment of wheat straw with a solution of caustic soda, lime, with the addition of carbamide helps to increase its total nutritional value by 0.14 feeding units, its protein value -- by 10.2 g. The digestibility of all nutrient substances in the granulated feed mixtures with the treated straw is 8-12% higher, which helps to increase the productivity of the animals.

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USSR

KUZNETSOV, A. K. and POZDEYEVA, Ye. S.

CULTIVATION OF ALGAE FOR FEED PURPOSES USING THE SEWAGE OF ANIMAL HUSBANDRY COMPLEXES

NAUCH. TR. UKR. S.-KH. AKAD. in Russian, No 191, 1976, pp. 33-34

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.439 from the resume]

[Text] A suspension of chlorella grown on the clarified liquid from swine manure has a clear stimulating influence on the growth and development of swine. In our experiment over the period of three months of feeding of chlorella to swine, an additional income of 18 rubles 88 kopecks per animal was achieved. Broad introduction of feeding of chlorella to the practice of pig farming can have a significant economic effect.

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USSR

KOVALENKO, V. I., LOZHESHNIK, V. K., KUDRIN, Yu. P., LIVSON, L. Z.,
YEVDOKIMENKO, I. K. and IVKO, I. I.

A METHOD OF PREPARATION OF ORGANIC FERTILIZER AND FEEDS FROM POULTRY DROPPINGS

USSR Authors' Certificate No. 478829, Filed 24/12/73, No 1978397, Published
27/10/75

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.48.433P from the resume]

[Text] A method is suggested for preparation of fertilizer and feeds from
poultry droppings, including heat treatment, where, in order to increase chem-
ical activity, increase nutritional value and eliminate harmful impurities
in the end product, vapors and gases are evacuated from the end product at
130-150 C at a residual pressure of 150-250 mmHg in the presence of phosphoric
acid, to produce a final pH of the medium of 6.2 to 6.5, after which the vapors
and gases are passed through a layer of KOH particles.

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USSR

KULIKOV, V. M. and MALAKHOVA, R. I.

GRANULATED FEEDS IN GRAIN REGIONS ALONG THE VOLGA

VESTN. S.-KH. NAUKI in Russian, No. 3, 1976, pp. 99-104

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.431 from the resume]

[Text] The grain regions along the Volga, particularly Volgograd oblast, where
the studies were performed, are distinguished by their highly specific feed
base: cattle here are fed significant quantities of grass in combination with
grain concentrates. The level and quality of feeding of the animals are insuf-
ficient, in relation to today's increasing requirements. This article pre-
sents materials on the most effective harvesting of barley without threshing
for use as a single feed, preparation of straw concentrate granules according
to various recipes and the results of animal experiments.

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USSR

KHLYSTUN, G. Ya., KUZNETSOVA, T. T. and SAFRONOVA, L. G.

INFLUENCE OF METHOD OF PREPARATION AND CONDITIONS OF STORAGE ON QUALITY OF COMBINED FEED

BYUL. NAUCH.-TEKHN. INFORM. SIB. N.-I. I PROYEKT.-TEKHNOL. IN-TA ZHIVOTNOVODSTVA in Russian, 1975 No. 11, pp. 32-33

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.430 from the resume]

[Text] Studies have shown the high effectiveness of granulation of combined feed concentrate for the reduction of microflora in the initial raw material, and also the feed is preserved better than loose bulk feed over periods of 90 days.

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USSR

RAKHIMOV, I. Kh.

INFLUENCE OF GRANULATION OF COMBINED FEEDS ON ACCESSIBILITY OF LYSINE

BYUL. VNII FIZIOL., BIOKHMII I PITANIYA S.-KH. ZHIVOTNYKH in Russian, 1975, No. 2(37) pp. 21-23

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.425 from the resume]

[Text] In preparing feed granules 19 mm in diameter in the DG-1 granulator without steam treatment, the accessibility of lysine is decreased slightly (by 1.1-2.4%) in comparison with the dispersed form. Bone intermediate, barley, wheat flour, dry milk and fish flour are distinguished by the high accessibility of the lysine they contain.

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USSR

Unsigned

INCREASING THE PRODUCTIVITY AND IMPROVING THE QUALITY OF THE PRODUCTS OF
ANIMAL HUSBANDRY

Novosibirsk UVELICHENIYE PROIZVODSTVA I ULUCHSHENIYE KACHESTVA PRODUKTSII
ZHIVOTNOVODSTVA in Russian, 1975, 201 pages

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.405K]

[No abstract]

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USSR

Unsigned

PHYSIOLOGY AND BIOCHEMISTRY OF THE ENERGY NUTRITION OF AGRICULTURAL ANIMALS

Borovsk FIZIOLOGIYA I BIOKHIMIYA ENERGETICHESKOGO PITANIYA SEL'SKOKHOZYAYSTVEN-
NYYKH ZHIVOTNYYKH in Russian, 1975, 400 pages

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.402K]

[No abstract]

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USSR

NADAL'YAK, Ye. A.

PHYSIOLOGICAL-BIOCHEMICAL ASPECTS OF THE UTILIZATION OF FEED ENERGY AND
NORMALIZATION OF THE ENERGY NUTRITION OF AGRICULTURAL ANIMALS

NAUCH. TR. VNII FIZIOL., BIOKHMII I PITANIYA S.-KH. ZHIVOTNYKH in Russian,
1975, No 14, pp. 31-47

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.400 from the resume]

[Text] Further increases in the productivity of agricultural animals are inseparably related to the need to provide conditions of feeding and maintenance under which their genetic capabilities are most fully realized as to transformation of the nutrient substances in their feed into the products of animal husbandry. Precise normalization of feeds as to metabolic energy and correct balancing of feeds with respect to a number of the most important nutrient substances are very significant in this work. Effective utilization of feeds also requires consideration of the regularities of gastrointestinal metabolism, cellular metabolism and energy. Normalization of energy metabolism requires more complete consideration of the productivity of animals, as well as their physiological condition, which is related to energy expenditures. 61 references.

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USSR

MULYARCHUK, M. D., PORTNOVA, M. S., RADOVETS, L. V., SKRYPNIK, Zh. D. and
PROVATOROV, G. V.

PROTEIN-FAT CONCENTRATE (PFC) OF NONNUTRIENT AND SECONDARY RAW MATERIALS OF
THE MEAT AND MILK INDUSTRY

NAUCH. TR. UKR. S.-KH. AKAD. in Russian 1976 No 191 pp 60-64

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE
OSNOVY) No 8 1976 Abstract No 8.58.395 from the resume]

[Text] A method and technology have been developed for the production of two types of PFC by the utilization of technical fats, nonfat milk and protein hydrolysate. It is important to utilize PFC in the ration of animals of all age groups, beginning at the 20th day until a weight of 97 kg is reached. The highest effectiveness in the use of concentrate in place of dry nonfat milk, fish flour has been achieved in feeding of suckling pigs. The weight of the pigs in the experimental group exceeds the weight in the control group by 11.6%. No significant difference between the experimental and control groups was discovered as to slaughter weight and slaughter yield, or the relationship of fat, meat and bone in the carcass.

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USSR

Unsigned

TECHNOLOGY OF PREPARATION AND UTILIZATION OF FEEDS

Novosibirsk TEKHNLOGIYA ZAGOTOVKI I ISPOL'ZOVANIYE KORMOV in Russian, 1975, 57 pages

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.393K]

[No abstract]

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USSR

YEZDAKOV, N. V.

USE OF ENZYME PREPARATIONS IN ANIMAL HUSBANDRY

Moscow PRIMENENIYE FERMENTNYKH PREPARATOV V ZHIVOTNOVODSTVE in Russian, Kolos Press, 1976, 224 pages

[From REFERATIVNYY ZHURNAL ZHIVOTNOVODSTVO I VETERINARIYA (BIOLOGICHESKIYE OSNOVY) No 8 1976 Abstract No 8.58.391K from the resume]

[Text] In recent years, enzyme preparations of microbial origin have come into extensive use in animal husbandry for better utilization of the nutrient substances in feeds. This book describes the results of scientific research and production experimentation on the application of enzyme preparations in the feeding of cattle, swine, sheep, fowl, minks, and also in the process of production of premixes, silage of leguminous crops, grass and potatoes.

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USSR

GAYDENKO, V. P., MIKHAYLENKO. A. A., SHARAPOVA, I. N., CHUMAKOVA, P. K. and MAMONOVA, Ye. I.

THE USE OF POWDERED CORN EXTRACT IN MICROBIOLOGICAL PRODUCTION

SAKHAR. PROM-ST' in Russian, No 5, 1976, pp. 66-69

[From REFERATIVNYY ZHURNAL BIOLOGIYA No 9(I) 1976 Abstract No 9L530 from the resume]

[Text] Results are presented from cultivation of glucoamylase and erythromycin producers on experimental installations at the Kurgan Combine for Medical Preparations and Products "Sintez" and VNIiTIBP Institute using dry corn extract as the nutrient medium instead of steam-treated corn extract. The possibility is shown of reducing the dose of powdered corn extract by a factor of 2 in comparison to the same quantity of dry matter in the steam-treated extract without reducing the productivity of fermentation.

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USSR

UDC 577.17.049:576.75:612.392.7]-07-092.9

NOVIKOV, P. G., Department of Special Hygienes, Minsk Medical Institute

TRACE ELEMENTS IN ANIMALS FED GRAIN GROWN ON SOIL TO WHICH VARIOUS CHEMICALS WERE APPLIED

Minsk ZDRAVOOKHRANENIYE BELORUSSII in Russian No 8, 1976 signed to press
19 Sep 75 pp 33-35

[Abstract] The concentrations of copper, manganese, cobalt, and iron were studied in rats fed wheat and rice grown on soil treated with herbicides and fertilizers. The animals fed grain grown on soil treated with herbicides showed a decreased capacity to retain iron, manganese, copper, and cobalt in the liver and muscle tissue and a greater accumulation of the trace elements in bone. Feeding animals with grain grown with the use of mineral fertilizers resulted in decreased manganese concentrations in bone and muscle and in iron concentrations in the liver. The rats given wheat from plots fertilized with a mixture of organic and mineral fertilizers took up the most copper, manganese, cobalt, and iron.

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Publications

USSR

KONSTANTINOV, A. A., and STEPANOVA, V. A.

PRODUCTS OF THE SEA ON OUR TABLE

Khabarovsk PRODUKTY MORYA U NAS NA STOLE in Russian 1974 28 pp

[Excerpt] Annotation

In this pamphlet Professor A. A. Konstantinov and candidate of biological sciences V. A. Stepanova explain the importance of ocean products in the nutrition of healthy and ill individuals. The chemical compositions of several commercial fish, invertebrates and water plants in the Far East is given, and there are data on the curative properties of sea water.

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KONSTANTINOV, A. A., and STEPANOVA, V. A., PRODUKTY MORYA U NAS NA STOLE
1974 28 pp

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USSR

GINZBURG, A. S., professor, editor

THERMOPHYSICAL CHARACTERISTICS OF FOOD PRODUCTS AND MATERIALS

Moscow TEPILOFIZICHESKIYE KHAKTERISTIKI PISHCHEVYKH PRODUKTOV I MATERIALOV
in Russian 1975 223 pp

[Excerpt] Annotation

This reference work contains systematic data on the thermophysical characteristics of basic food products and materials taken from domestic and foreign works and also from the work of the book's authors. There are descriptions of methods recommended for determining the thermophysical characteristics of raw materials, semifabricated goods and prepared items of the food industry.

Data are given for the dependence of the thermophysical characteristics of various food materials on temperature, moisture or concentration, density or bulk, and fat content.

The book is intended for scientific and engineering technical workers in the food industry and can also be used by students at higher educational institutions. Tables 99; Illustrations 65, Bibliography 286 entire
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GINZBURG, A. S., TEPILOFIZICHESKIYE KHAKTERISTIKI PISHCHEVYKH PRODUKTOV I MATERIALOV 1975 223 pp

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GINZBURG, A. S., TEPLOFIZICHESKIYE KHARAKTERISTIKI PISHCHEVYKH PRODUKTOV I MATERIALOV 1975 223 pp

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GINZBURG, A. S., TEPILOFIZICHESKIYE KHAKTERISTIKI PISHCHEVYKH PRODUKTOV I MATERIALOV 1975 223 pp

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USSR

LANGE, K. A.

INSTITUTE OF PHYSIOLOGY IMENI I. P. PAVLOV

Leningrad INSTITUT FIZIOLOGII IMENI I. P. PAVLOVA in Russian 1975 175 pp

[Excerpt] Annotation

This book is an outline of the history of the organization and development of the Institute of Physiology imeni I. P. Pavlov, the first physiological research institutions in the USSR Academy of Sciences. The systematic exposition of the material permits following the path taken by the collective of this institute for 50 years, and evaluating its role in the development of physiological science in the USSR. Data are given which characterize the basic directions in the further research of the laboratories of the institute. Special attention is given to the examination of the features of the origin and development of the scientific schools of I. P. Pavlov, L. A. Orbeli, and K. M. Bykov, and to the explanation of the influence of these schools on the direction of scientific research in the institute. The final chapter covers some problems of the organization of scientific centers of the USSR Academy of Sciences. Using the Institute as an example there is a discussion of the possible development of large academic institutes into specialized centers of the USSR Academy of Sciences.

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USSR

LANGE, K. A., INSTITUT FIZIOLOGII IMENI I. P. PAVLOVA 1975 175 pp

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LANGE, K. A., INSTITUT FIZIOLOGII IMENI I. P. PAVLOVA 1975 175 pp

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USSR

IL'INA, L. A., professor, corresponding member of the Academy of Medical Sciences USSR

EMERGENCY CARE FOR ACUTE EFFECTS OF RADIATION

Moscow NEOTLOZHNAYA POMOSHCH' PRI OSTRYKH RADIATSIONNYKH VOZDEYSTVIYAKH
in Russian 2d ed 1976 208 pp

[Excerpt] Annotation

Experience of many years of research in the treatment of radiation sickness caused by incorporated radioactive substances is summarized. Information is included on radioactive substances as sources of radiation injuries and there also is an exposition of the clinical picture of acute and chronic radiation sickness as well as detailed characteristics of new drugs and methods of their use. The conclusion gives a detailed table of antidotes and measures of first aid for the intoxications indicated.

The book is intended for a wide circle of physician-therapists, radiobiologists, toxicologists, and workers at medical sanitation stations and emergency care points. Figures 27; Tables 18; Bibliography 128 entries.
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USSR

IL'INA, L. A., NEOTLOZHNAYA POMOSHCH' PRI OSTRYKH RADIATSIONNYKH VOZDEYSTVIYAKH
2d ed 1976 208 pp

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USSR

IL'INA, L. A., NEOTLOZHNAYA POMOSHCH' PRI OSTRYKH RADIATSIONNYKH VOZDEYSTVIYAKH
2d ed 1976 208 pp

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II. BEHAVIORAL SCIENCES
General Psychology

USSR/EE

FILIPASHVILI, YU. V., Tbilisi

METHODOLOGICAL PROBLEMS IN THE DEVELOPMENT OF PSYCHOLOGY IN SOCIALIST COUNTRIES

Moscow VOPROSY PSIKHOLOGII [Problems in Psychology] in Russian No 4, Jul/Aug 76 pp 149-151

[Abstract] This is a review of a book (edited by Damian Kovac) which reports papers from the Czechoslovak Seminar on the above topic. The book consists of three parts: the first is devoted to general methodological properties, the second--to the current state and perspectives of psychology in all socialist states in Europe and the third--to current methodological theoretical problems. No Soviet authored papers are reviewed. I. Bondar's paper on "Man as a philosophical problem" addresses the question of human problems, making it a central point in theoretical studies. From the methodological point of view, a very important paper was that of D. Kovac on "Regulatory concepts of psychological functions." The developments of psychology in Poland are covered by T. Tomaszewski. G. Huebsch discussed the tasks and the future of psychology in a developed socialistic country (German Democratic Republic), and L. Kardosh covered the last 25 years of the

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development of psychology in Hungary, while the topic of A. Roshko was the realization and future of Roumanian psychology. Most of the papers were also delivered at various seminars in the respective countries. No tables, figures or references.

Psychiatry

HUNGARY

ARATO, Mihaly, Dr, ERDOS, Andras, Dr, and KASANSZKY, Eموke, National Institute of Neurology and Mental Diseases (Director: TARISKA, Istvan, Dr)

INSTANCES OF ORGANIC SOLVENT ABUSE AT THE PSYCHIATRY DEPARTMENT

Budapest ORVOSI HETILAP in Hungarian Vol 117 No 39, 26 Sep 76 pp 2365-2367

[Abstract] Five cases, involving young patients (between 16 and 22 years of age) admitted during 1975 to the male-patient department of the National Institute of Neurology and Mental Diseases with symptoms caused by adhesive-solvent inhalation, were described. The following psychopathological findings predominated (they may also be used to diagnose organic-solvent inhalation): colorful and plastic visual hallucinations, perceptual distortions, inadequate attitudes, oneiristic state, unmotivated mood heightening. These symptoms are generally acute and disappear within a short period without treatment. Often the odor of breath also identifies the solvent. The patients discussed had relatively high intelligence quotients. Solvent abuse increases in frequency in Hungary. References 14: 7 Hungarian and 7 Western.

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CSO: 1840

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